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ABSTRACT

Based on a research project that sought to train instructors to conduct action research in a real-life context, this handbook was created to help literacy instructors to use action research in workplace education programs. The handbook is organized in three parts. The first part describes action research as a type of practice-based research. It outlines two models that can be used in conducting an action research project and then discusses the major steps of identifying a problem, collecting and analyzing data, and implementing an action strategy. The second part of the handbook describes eight action research projects, written up as case studies. These projects were conducted by practitioner-researchers and included topics such as increasing learner motivation, adapting teaching styles, and enhancing learning with the Internet. The case studies illustrate the actual process used in conducting action research and provide examples for critical reflection on findings that were used to solve common workplace literacy program problems. The third part of the handbook contains support information needed to carry out action research projects. (Contains an annotated bibliography of 21 references on action research and a set of exercises that match the steps in conducting an action research project.) (KC)

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ACTION RESEARCH
IN WORKPLACE EDUCATION

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A HANDBOOK FOR

LITERACY INSTRUCTORS

MAURICE TAYLOR
PARTNERSHIPS IN LEARNING

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ACTION RESEARCH
IN WORKPLACE EDUCATION

A HANDBOOK

FOR

LITERACY INSTRUCTORS

MAURICE TAYLOR
PARTNERSHIP IN LEARNING

JANUARY 2002

Action Research

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Action Research

Introduction

This handbook is about how to use action research in workplace education programs. It was based on a project funded by the National Literacy Secretariat and is crafted around the idea that action research can help change literacy practices in teaching and learning. The main thrust of the resource illustrates how an instructor can actually become a researcher.

What was this project all about?

The purpose of this project was to help instructors use action research in various workplace practice settings. It was intended to train instructors on how to conduct action research and actually design and carry out a research project that focussed on getting a better understanding of a problem or achieving a real change or improvement in a practice context. The basic design of the project was to select eight instructors from across the country, who are currently teaching in a workplace literacy program. Using the Conference Board of Canada (1999-2000), Awards for Excellence in Workplace Literacy Directory, these programs were chosen from small, medium and large businesses. In the first phase of the project, the instructors were brought together in a training workshop where the basic stages of action research methodology were taught. A second objective of the workshop was to identify a workplace problem and to decide where and how to intervene in this problem.

In phase two of the project, the instructors were coached through the methods of their workplace project. The Project Director acted as a mentor for each of the eight instructors and provided the support and assistance required to complete an action research project. In the final phase, the actual write-up of the project was completed which resulted in this handbook.

What will you find in this handbook?

There are three main parts to this source book. The first part describes action research as a type of practice-based research. It outlines two models which can be used in conducting an action research

project and then discusses, in some detail, the major steps of identifying a problem, collecting and analyzing data and implementing an action strategy. The information highlighted in this section is an abridged version of the workshop content that was presented to the practitioner researchers in an early phase of the project.

The second part of the resource describes eight action research projects written up as case studies. This section provides the reader with a wide range of interesting projects from various workplace practice settings. These projects were conducted by the practitioner-researchers and include such topics as increasing learner motivation, adapting teaching styles and enhancing learning with the Internet. The case study write-ups serve to illustrate the actual process in conducting action research and provide good examples for critical reflection on findings that were used to solve common workplace program problems.

In the third part of the handbook, the reader will find the support information needed to carry out their own action research project. It begins with an annotated bibliography which includes some of the most relevant references on the subject of action research. The bibliography extends the information presented in the first section. Also included is a set of practical exercises that match the different steps in conducting a project which are detailed in the first section. These exercises were used by the practioner-researchers during their workshop training.

PART 1

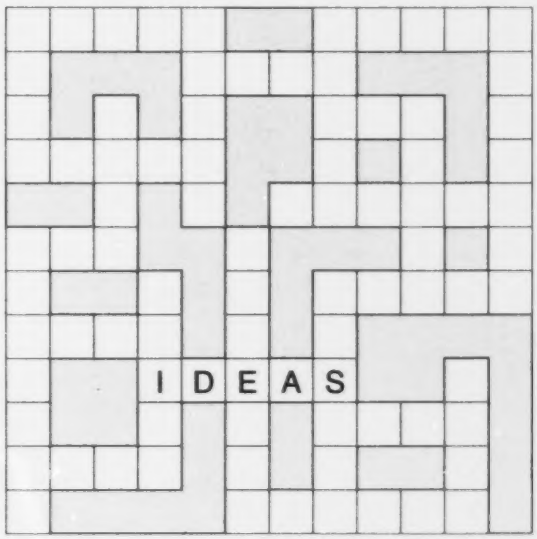
WHAT IS ACTION RESEARCH?

What is Action Research?

Maria notices that alot of learner time is spent waiting for her to give individual assistance in a workplace learning centre model of delivery. She interviews three other instructors to find out how they manage a similar problem and begins to keep a journal of her reflections on this problem. She also decides that she needs to observe a more traditional literacy classroom and to start collecting readings on peer support and the idea of scaffolding. All of these sources of information seem to point in one direction. Maria rearranges the learners into groups of mixed abilities and changes her teaching style to guided participation. Using both a self and learner assessment tool, she evaluates her new teaching style to be more effective in the Centre.

Bill has been teaching this workplace education program at the company for the past two years, and during each session the learners have voiced their discontent about the current assessment methods that he inherited from the last program instructor. He starts to log the types of learner concerns which eventually develop into some good interview questions. He decides to interview a number of learners who are in the program now, and a few who took it last year to find out what is at the root of the problem. He speaks with a colleague at the local community college, who gives him some web sites on alternative assessment techniques and some concrete examples of learning portfolios. Pulling all this information together, Bill designs a method for initiating portfolio development in his classroom. When he tries it out, he finds that it works well under certain circumstances and with certain types of learners.

These two scenarios describe the concept of action research. Action research or practice-based research, as it is sometimes called, is a form of applied research that helps change practices in teaching and learning where the instructor is actually the researcher. Simply put, action research is the study of a social situation with a view of improving the quality of action within it.



Action research was based on some earlier ideas in the 1940's and 1950's, developed by Kurt Lewin and his colleagues as a collection of problem-solving cycles for improving organizations. This term "action" captured the notion of a disciplined inquiry in the context of focussing efforts to improve the quality of an organization and its performance. Even today, the idea of action research remains a powerful tool for improving the practice of any given educational setting. For literacy instructors, action research promises progress in professionalization. The process allows them to experience problem-solving and to model it for their learners. As discussed in the next section, practitioners carefully collect data to diagnose problems, search for solutions, take actions on promising possibilities and monitor whether and how well the action worked. The cycle can repeat itself many times, focussing on the same problem or on another issue. This process can help develop a professional problem-solving ethos much needed in the field of literacy.

Understanding the Action Research Process

A novice reader to the action research literature will find it plentiful. All theorists of action research offer models or cycles in which thinking, doing, and watching are interwoven and repeated throughout the research activity. For this project, two models were selected based on their ease of use and were presented to the practitioners as a vehicle to conduct their action research project. These models are described by Altrichter, Posch and Somekh (1993) and Kuhne and Quigley (1997) and appear in a summary chart in Figure 1.

As can be seen in Figure 1, there are many common elements to both of these models. For example, action research can be seen as a process where instructors, teachers or employees become responsible for managing the process of change within any aspect of an organization. Anyone in a workplace organization can begin the action research process, but to be successful, that person must be personally interested in

Figure 1
Models of Action Research

Kuhne and Quigley (1997)	Altrichter, Posch and Somekh (1993)
Planning Phase Step 1 Understanding the Problem Step 2 Defining the Project Step 3 Determining the Measures	Finding a Starting Point and Clarifying the Situation Step 1 Writing a Research Journal Step 2 Finding a Starting Point for the Research Step 3 Clarifying the Starting Point Step 4 Collecting Data Step 5 Analyzing Data
Action Phase Step 4 Implementing an Action and Observing the Results	Developing Action Strategies Step 6 Developing Action Strategies and Putting them into Practice
Reflection Phase Step 5 Evaluating Results Step 6 Reflecting on Project	Analysis and Theory Generation Step 7 Formulating and Sharing Instructor Knowledge

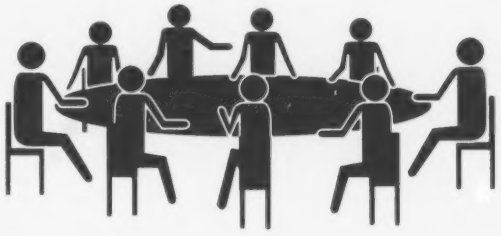
some aspect of the organizational process and taking action to improve the situation.

Another common element between the two models is that there are several sequences in the change process. In both models, successful problem or need identification is the crux of the actual research effort. One of the difficulties of the word "problem" is that it implies that something is wrong. However, in the action research context, a problem is a definition of need for change that helps describe how certain issues can be addressed. Successful problem identification must meet certain criteria: the problem must be important to the person naming them and also significant for the workplace; the problem must be manageable; and problem statements must reveal some fundamental criteria for assessing a solution. In other words, the goal of the action researcher is to define the problem in a way that summarizes various perspectives and takes into account the organization's needs, managerial needs, union needs and membership needs.

Similar to both models is the gathering and analysis of data. Data collection is a process of selecting the people or the sources of information that can assist in providing information on an issue or problem being researched. The goal is to define the population of individuals or the types of

information sources than can provide a perspective on this issue. There are a variety of ways of collecting data from people sources and these include structured or unstructured interviews, focus groups, and survey questionnaires. One of the best data gathering methods in action research is the open-ended interview.

The analysis of data involves a sorting procedure which can be used in ordering and characterizing interview statements of the concerns and issues described in the problem. There are two major steps in analyzing the data. In the first step, the researcher summarizes the feelings and perceptions coming from the interviews and questionnaires, while in the second step, the researcher analyzes the content of the interview data to provide a picture of the overall concepts and needs.



Focussing and designing the change is another common characteristic between the two models. Focussing change is much like an architect's task when beginning the process of renovating an old heritage building. The architect begins with ideas and sketches and works within the constraints of the existing construction to "focus the renovation". In other words, an architect's concepts and visions are adapted to the present construction needs of the tenant and community norms. The following section moves from these common aspects of the research process to a discussion on the nuts and bolts of conducting an action research project.

Steps in Conducting an Action Research Project

During the training workshop, most of the instructors chose to work with the model described by Altrichter, Posch and Smekh (1993). The model has three phases: finding a starting point and clarifying the situation; developing action strategies and analysis; and theory generation. What follows in this section is a further description of how the model was used in a seven step-wise fashion. Particular attention is given to the steps of collecting and analyzing data. The exercises and fact sheets completed in the actual training workshop appear in this manual in Part 3 — Action Research Exercises and Annotated Bibliography. They can be used by those readers who are interested in trying out some of the mechanics of doing an action research project.

Step 1 – Writing a Research Journal

The research journal is one of the most important methods and is commonly used by all kinds of researchers. Writing a research journal is a personal matter and some of the following suggestions may suit your learning style.

- research journals should be written regularly. Some people find it useful to reserve specific periods of time by scheduling into their calendar
- disregard considerations of style, punctuation, sentence structure, etc. while writing entries
- leave a wide margin on each page of your notebook to record changes, additions, resources
- each entry should include the date of the event, time, location, participants and other relevant details
- record observations, feeling, reactions, interpretations, reflections, ideas, explanations
- do a provisional analysis of your journal from time to time.

Step 2 and Step 3 – Finding and Clarifying a Starting Point

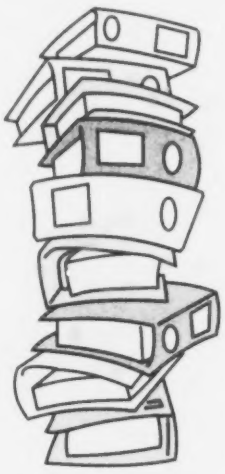
The next two steps in the research process are related to identifying and describing a problem area for the action research project. Exercises 1 and 2 found in the back of the handbook provide some tools to help develop a research question.

Step 4 – Collecting Data

There are four basic strategies to consider when collecting data and these include collecting existing evidence; observing and documenting situations; interviewing; and questionnaires. So that the reader has a sense of what these strategies entail, a short description follows.

1. Collecting existing evidence

Instructors have access to a variety of existing information which can be used as data. This material can provide evidence of past events relevant to a research question and can be collected in a portfolio. A portfolio is a purposeful file of everything that may seem relevant to an issue that can later be reviewed. Written evidence is useful in trying to establish a baseline of what has happened in the past and can be invaluable for comparing a new approach to a past approach. Some examples that can be used are: learner papers, exercises or notes, grades, staff minutes, research articles, correspondance, notices, progress reports, letters of complaint, lesson plans, attendance sheets, drop out rates, budget information, operational policies, safety procedures, accident reports, repair costs and expense claims. Examples of unwritten evidence are the appearance of a classroom or learning centre after the students have left, state of repair on equipment, cover designs of books, wear and tear on furniture or binding of books and photos of graffiti.



2. *Observing and documenting situations*

Observing. Direct contact in a setting for an extended period of time provides an opportunity to gain other data presented in the form of personal histories, stories, feelings and experience. It also provides an opportunity to see conflicts and miscommunications which might have not been recognized in other information gathering methods. The two roles an observer can take on are onlooker or participant observer. Observation can be structured with guideline questions. In such a case the recording process is structured. After the observation is over, the researcher creates a picture of the setting. Structured observations rely on instruments and procedures for observing and include questions like: who talks to whom, how many interactions were initiated by the person, how many times did the person leave his/her desk. For the onlooker the purpose is to move "where the action is." Most observational designs will be of the "onlooker" variety and are biaised with "being there." Not interrupting the natural setting is a key requirement in understanding the physical and social environment. Exercise 3 provides some useful tips in recording observations.

Documenting situations. Kuhne and Quigley (1997) describe a number of data collection techniques that are useful in documenting a situation. For example, anecdotal records are written descriptive accounts of incidents that are typically used to note a particular or repeating occurrence with a group or individual. Field notes are similar to anecdotal records, but the researcher's impressions and interpretations are recorded at the same time. They are typically written at the site of the event. Logs are careful records of recurring activities that are often numerical such as records of attendance, the number of times learners do certain things, or how groups allocate their time.

3. *Interviewing*

Interviews allow for interaction and are often categorized into three types. Structured interviews are useful when seeking specific information on specific topics. This type leaves little room for discussion beyond the given questions. If the interviewee begins to stray, the interviewer should bring him or her directly back to the questions. Semi-structured interviews involves asking more open-ended questions of several participants but allows the interviewee to go further than the precise question with opinions, thoughts, and questions.

Often written "probes" are used. These are reminders on the interview schedule of opening questions the interviewer can use to go to specific related aspects of the question after the first response. Open interviews encourage open discussion and wide-ranging opinion, with very little direction on the interviewer's part. Exercise 4 provides some helpful suggestions for improving your interviewing skills.

4. Questionnaires

There are basically two types of questionnaires. Open questionnaires ask for opinions or information in the participants' own words. These types of open-ended questions are especially useful for exploratory or subjective reactions. Closed questionnaires may require multiple-choice or direct short-answer responses. They seek specific information, with little room for the respondent's interpretations and are especially useful for collecting specific information.

Developing questions for data gathering. Certain questions enhance conversation. For instance, questions beginning with "what," "why," "where," and "how," facilitate the thought process. Questions beginning with "are you," "when are," and "where is," lead to very simple answers, elicit yes/no responses, and limit discussion. In improving participation in question asking, certain types of questions are more appropriate. Let's look at three different types of questions:

- High level (thinking) vs. low level (rote) questions.

  The level of questions refers to how the question evokes thinking. High level questions require individuals to think rather than simply recall, paraphrase, or summarize. Low level questions are those asking the individual to merely recall, repeat, summarize or paraphrase what has already been stated or written down.

- Divergent (many answers) vs. convergent (few answers) questions.

  The number of possible right answers indicates a question's divergence. Divergent questions are those for which there can be a number of "correct" or discussible answers. Convergent questions imply that there is one right answer.

- Structured vs. unstructured questions.

  Certain questions are more structured than others. Structured questions provide background information, specify or narrow the focus, and otherwise

orient the respondent to the question and its aims. Unstructured questions are wide open and amorphous.

Step 5 – Analyzing Data

There are many ways of making sense of the collected data. For the purpose of this project, the constructive method of data analysis was used because of its practicality. There are four aspects to this method.

- Reading data — data are read or closely scrutinized in order to recall the events and experiences that they represent. What was done? What was said? What really happened?
- Selecting data — important factors are separated from unimportant ones, similar factors are grouped, complex details are sorted and simplified.
- Presenting the data — the selected data are presented in a form that is easy to take in at a glance.
- Interpretating data and drawing conclusions — Relationships are explained and a practical model constructed to fit the situation which has been researched.

Once a decision has been made to end simultaneous data collection and analysis, the information must be organized so that the analysis can begin. All of this material is called the *study data base* and needs to be organized in some fashion so that information is easily retrievable. Developing the study data base involves fairly simple sorting of all the data. The goal is to be able to locate specific information during analysis. The data therefore needs to be organized according to some scheme that makes sense to the investigator and then indexed accordingly.

Data analysis is the process of making sense out of one's data. All of the information that has been gathered together and organized topically or chronologically should be read through several times from beginning to end. While reading, the investigator jots down notes, comments, observations and queries in the margins. At this stage the researcher is virtually holding a conversation with the data, asking questions of it, making comments, and so on. These notes serve to isolate the most striking aspects of the data. The notes are developed into a preliminary outline or system of classifications into which data are sorted initially. The outline begins with a search for regulahrities — things that happen frequently with groups of people. Patterns and regularities then are transformed into categories into which subse-

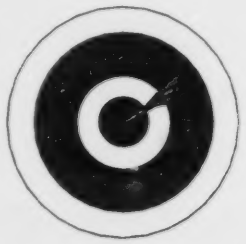
quent items are sorted. These categories or patterns are discovered from the data.

At this beginning stage of analysis, most experts suggest unitizing the data — identifying "*units* of information that will, sooner or later, serve as the basis for defining categories. Units come from interview transcripts, observation notes, or documents. A unit can be a phrase, a sentence, a paragraph. Each unit of information can be put onto a separate index card and coded according to any number of categories ranging from situational factors (who, what, when, where) to categories representing emerging themes or concepts.

Developing categories. In addition to coding units of data by obvious factors such as who, what, when, and where, analysis involves the development of conceptual categories that interpret the data for the reader. Devising categories is largely an intuitive process, but it is also systematic and informed by the study's purpose, the investigator's orientation and knowledge. Developing categories or themes involves looking for recurring regularities in the data. Which units of information go with each other? It is a task of comparing one unit of information with the next. Devising categories involves convergent thinking. Convergence is determining what things fit together — which pieces of data converge on a single category or theme. The categories that one constructs should be internally homogeneous. That is, all items in a single category ought to be similar. The number of categories one constructs depends on the data and the focus of the research. In any case, the number should be manageable.

There should be a minimum of unassignable data items, as well as relative freedom from ambiguity of classification. Moreover, the set of categories should seem plausible given the data from which they emerge, causing independent investigators to agree that the categories make sense in light of the data. Much of the work in category construction is a form of content analysis.

There are three guidelines by which to judge the efficacy of categories derived from content analysis. The first guideline is looking at the content of the data in developing categories. The categories should reflect the purpose of the research. Care should be taken to ensure that categories are congruent with research goals and questions. The second is that the categories should be exhaustive — that is, all relevant items in the sample of documents under study must be capable of being placed into a category. The third is that the categories should be mutually exclusive — no single unit of material should be placed in more than one category.



Step 6 – Developing Action Strategies and Putting Them into Practice

Where do we look to find suitable action strategies? The most important source is our new understanding gained from analysis of the situation. Understanding an issue, by uncovering the network of interrelationships, not only leads to a new awareness of the situation, but also offers a wealth of ideas about possible action. A second important source is the actual process of data collection. Simply finding out learners' attitudes may be enough to suggest possible solutions. A third important source is our own aims, objectives and values as instructors. In the course of problem analysis and data collection, the researcher's aims become more practical and realistic as they are better informed by knowledge of the situation. As well, ideas and suggestions for suitable action strategies may come from external sources such as from conversations with colleagues, information about how other people have coped with similar situations, and ideas in books and articles. Exercise 5 provides a method for checking your action strategy.

Monitoring action strategies. In order to learn as much as possible from trying out the new strategy, it is important to consider in advance how to monitor the situation. A time plan may help you to think through and prepare the task of co-ordinating research activities with different action strategies. To check the results of action strategies, you need to define your own criteria of success. When can you say an action strategy was successful?

- if it has resulted in an improvement of the situation,
- if it has not also caused unintended, negative side-effects which detracted from the main, positive effects, and
- if the 'improvement' is not short-term.

What is considered to be an improvement depends also on *who* is making the judgement, and there are four voices which can be used to evaluate improvements.

- The voice of the individual instructor / researcher.

  Instructors try to improve a situation; in doing so their personal values are uppermost in defining what may be considered as improvement.

- The voice of other people concerned.

  Who counts as a person concerned cannot be definitely and finally settled in advance. Certainly, all the participants in the situation that is being researched, and all those who will be affected in any way

by the action strategies being implemented, must be included.

- The professional voice.

  A characteristic of professionalism is that the practice of an individual member of the profession should be open to scrutiny by professional colleagues. This professional evaluation begins when instructors voice their knowledge, experience and professional values in conversations about their teaching.

- The voice of the community.

  The community as a whole, including various interest groups, has a stake in the evaluation of instructors' practice.

An example of how to plan out all of the steps for your action research project appears in Exercise 6.

Step 7 – Formulating and Sharing Instructor Knowledge

One of the primary concerns of action research is to promote the sharing of knowledge and experiences of the practitioner-researchers who engage in it in order to improve and further develop programs. Preparing to report the experiences and outcomes of action research involves further reflection and analysis which sharpen initial interpretations and give rise to additional insights. In analysing your own experiences and reporting them, you make it clearer to others where you stand and why.

When deciding what method to use in reporting the new instructor knowledge consider these three interrelated questions.

1) **What:** What should be included — descriptions, research methods, analysis of findings, action strategies?
2) **To whom:** Who are your audiences?
3) **How:** What method of reporting do you want to use?

PART 2

EIGHT

ACTION RESEARCH

CASE STUDIES

Action Research Case 1

Learning Indicators: The Catalyst for New Instructional Strategies

The Workplace Context

The Skills Improvement Program at the Molson-Edmonton company is the venue for this action research project and begins by describing the context of the program. Molson-Edmonton is a well-established beverage producing operation that supplies a variety of beers to the food services and the retail industry. It is a national company that has been in existence since 1786. Production operations function on a 24 hour a day basis. The mid-sized unionized company employs roughly 135 individuals including plant production and office personnel. The average age of employees is 46 and the majority have completed grade 12 and some post-secondary training.

The company's workplace history, within the past several years, has been characterized by a number of pivotal changes, events and critical trends. The events include a company merger, adoption of a participative management style, new health, safety and environment regulations, new production equipment and rapidly emerging technological changes. These factors along with the company's commitment to ongoing employee training were the incentive for mounting the Skills Improvement Program (SIP) in partnership with NorQuest College in the fall of 1996.

The Skills Improvement Program, now in its sixth year, has operated on a part-time, part-year schedule. Program structure is organized along identified needs and interests of employees and family members who enroll on a voluntary basis. Courses are offered in the essential skills of computer literacy, reading and writing strategies, math refresher, notetaking and General Education Development. Literacy courses are self-paced to accommodate participants' own rate of learning while courses in computer literacy are conducted over two to six hour sessions. Classes are most often held in the afternoon or evening after employees' shifts and on their own time. Generally participants average nine hours of learning over a part year.

In the five years of the program's existence, end-of-course evaluations focusing on the workshop and the instructor are completed by participants but an assessment of what and how participants are learning or accomplishing is not carried out. Thus, the catalyst of this action research project was the desire to identify and articulate evidence of learning as a result of the Skills Improvement Program.

Finding a Starting Point

Historically, authentic assessment of learners' progress and development in literacy-based programs is not rigorously conducted. Learner assessment in workplace literacy programs is characterized by a multitude of interpretations and is still a point of deliberation in the area of workplace education. A pre-post test or a standardized literacy test are administered on occasion in some programs however, the SIP program is flexible in accommodating worker needs. This has resulted in continuous intake and consequently variable length of time in the program. The open entry/open exit nature and time constraints make it difficult and complex to conduct traditional learner assessment. Although some programs perform an entry level screening test, testing in this program is not a mandated component because much of the educational development is geared to interest learning and does not have to be aligned with specific workplace goals. Both employees and family members enroll, show up, participate and go without any thought about or discernible awareness of the learning process.

Questions arose out of this absence of evaluation as well as the need to bring to light an understanding of the learning development that occurs for the participants. For example, over two part-time years, one learner logged in 115 hours of class participation in computer courses, math upgrading and General Education Development. If learning is defined as the knowledge or skills acquired by instruction and study, then it would make sense that this should have transpired. But where is the evidence that participants are gaining knowledge, skills and an understanding of the learning process? What and how much are participants learning? Has there been a transfer of learning both on a personal or professional level? How, then, can learners' progress be assessed or estimated? The intention of conducting this action research project was that by answering these questions it may lead to more purposeful and meaningful learning experience for the participants and more effective instruction.

The incompleteness or lack of closure at the conclusion of each course combined with a need to bring awareness of the learn-

ing process became the underlying incentive for a more reflective and investigative approach to clarifying the issue. A knowledge gap of whether and what people have learned has always existed and there have been no tools to measure this gap. Accordingly, the process and model of action research served as the guiding framework to observe and reflect on issues dealing with the development of learning. Thus, the research question was framed to read as:

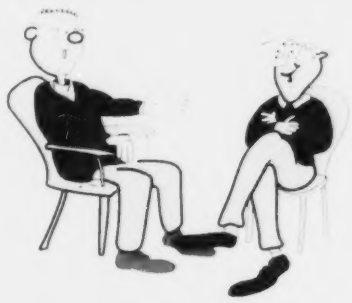
> *What are the range of learning indicators that provide evidence that learning has occurred for participants of a workplace program and how can we use them as instructional strategies?*

Understanding the Situation

Data Collection Methods

Three data collection methods were selected to gain a deeper understanding of the research question and provide fuel for reflection. Interviewing, conducting a literature review, and collecting existing records provided the main sources of data.

The primary method to capture the voice of the different stakeholders was face-to-face interviews. The target group was composed of the program participants and represented departments such as maintenance, finance, shipping, salaried staff, packaging, quality control, brewing and family members of the employees. Workplace instructors and trainers, the company Human Resources Director, and a University of Alberta professor who specializes in workplace learning were also interviewed. Although common opinions were voiced, each person brought some new and insightful piece of information that served to round out this research data source.



Semi-structured questions were designed to obtain interviewee perceptions, thoughts, and opinions. These interviews were conducted with program participants either at the Molson Learning Centre or in a local coffee house. Interview questions were framed around specific learning goals, important learnings, and proof of learning. Learners gave concrete examples of learning on the job, at home or in the community, and voiced suggestions on how to figure out if learning had occurred after completing a course. Interviews were not tape recorded but field notes were taken during and after the interviews and then transcribed into an electronic form on the computer.

The instructors and trainers questions related to how they perceived the learning process from their vantage point. They were asked to give specific examples of new

skills, attitudes and knowledge that learners take away at the end of the course; to describe these changes as observable indicators and to provide evidence that there has been transfer or application to real-life situations. The interview schedule for the Human Resources Manager was to some extent similar but focused more on evidence of transfer or application to work; methods to collect evidence of learning and ways to facilitate learner assessment.

The interview conducted with the university professor was more open-ended and converged on four specific areas relevant to learning indicators: what learners have to tell; what learners do (performance assessment); the instructor's perception of change relevant to observable indicators; and products created by students. This provided an effective backdrop and springboard for the inquiry process.

A literature review of learner assessment in workplace education, although more difficult to locate than assessment in adult education, became the second source of data collection. Literature on learner evaluative strategies indicated the important role of evaluation as an integral part of planning instruction and understanding the learning process. In other words, assessment and instruction need to be integrated, seamless and ongoing. Evaluation of learners with reference to self-evaluation has not been a component of SIP, yet, the research indicated that learners need to self-regulate, to reflect on what they have done, and to take responsibility for assessing their learning progress and monitoring their own development. A certain theme in the literature also proposed alternative measures of evaluation which embrace portfolio assessment, individual conferencing, reflective interviews, self-evaluation process and summative evaluations.

The third method of collecting data to determine indicators of learning was the existing program related documents composed of attendance records; written feedback in post-course evaluations; and products of learners' accomplishments facilitated in class such as passing the GED exam, creating a web page, writing clear memos and producing a work-specific spreadsheet.

Making Sense of the Data

The data analysis progressed through the constructive method of reading, selecting, presenting and interpreting the data and then formulating conclusions. All the information was summarized and prepared for a digital

format. The analysis was a formidable task largely due to the abundance of high quality and thoughtful information extracted from the various sources. Notes were read, re-read and sorted to form the framework. After distilling the information, three category headings evolved. They were:

Category 1 – Evidence of learning

Category 2 – Bottom-line outcomes

Category 3 – Learner evaluative strategies

An evolving flowchart of the filtering process provided a visual representation for the researcher which greatly assisted in transforming learning indicators into instructional suggestions. From this flowchart, arose the scaffold for developing the action research strategies.

Evidence of Learning

Four major themes emerged out of the range of learning indicators which consisted of helping others; transfer of learning outside the classroom; empowerment elements; and learner-generated products. Participants reported that learning had occurred beyond the classroom when they were able to assist or instruct co-workers, co-classmates, family members, friends, their 'boss' and even their instructor. Examples of the transfer of learning to work, home or community were named by interviewees and ranged from writing memos, to using spreadsheets more efficiently or creating a presentation. In the empowerment theme, much attention was given, especially from the learners, to the enabling result of taking courses. Such items included knowledge and skills expansion; improved confidence and attitude; effective job performance without frustrations; feeling of independence; greater self-awareness; better problem-solving strategies; and enhanced ability to ask better questions. Observable indicators regarding attitude changes encompassed appropriate body language, mannerisms and forthright verbal expressions of success. As one respondent stated "I used to be scared stiff and now I can do it". The last theme of this category dealt with the creation of something tangible, a product, either in class, at work, at home or in a community. Many examples are similar to those mentioned in the transfer of learning theme.

Bottom-line Outcomes

One key theme emerged central to the issue of transferability of learning to work performance. Although behavioral change can mean learning has taken place, it does not necessarily ensure it will transfer to bottom-line outcomes and subsequently enhance the company's business. However, there is some evidence of learning and change when employees ask more ques-

tions, provide their own examples of application, solve problems faster, advocate the adoption of new learning, use a new language linked to the new concepts, and exhibit appropriate body language.

Learner Evaluative Strategies

The third category dealt with issues related to developing learner evaluative strategies. The descriptive pieces of data in this category provided the blueprint for instructional strategies as seen through the lens of learner evaluation. This category helped validate the idea that learners should be encouraged and supported to play an active or even pro-active role in their personal assessment. Information about strategies emphasized the instructor's significant role in helping learners articulate their ideas about the learning process. Both learners and instructors should reflect on what are reasonable indicators of learning within the classroom and beyond. The analysis from this category triggered proposals for evaluative tools connected to instructional strategies that could facilitate a greater understanding of individual learning.

Developing Action Strategies

The development of action research strategies sprung forth from the data sources and in particular from the new evaluative practices that could be embedded in the instructional approach. In the implementation stage, four instructional options were presented to learners at the beginning of each short-term course. Learners could choose as many as they wanted or none at all.

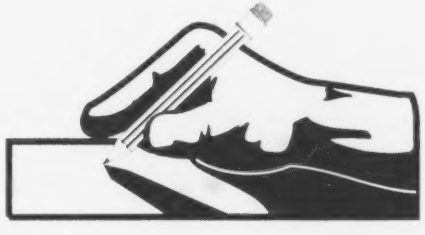
The first instructional strategy was completing a checklist that was aligned with the course objectives. It was scored on a three point rating system as follows:

(1) Beginning to understand,

(2) Intermediate (know a fair bit),

(3) Proficient (know it well and could show someone).

At the end of the course, learners would check off those concepts that they have learned. A second strategy combined patterns from the data related to learning reinforcement. Here learners could opt to complete an assignment or project-based exercise using the objectives of the course. Learners could create a product in class and produce a print out as a verification of their work. A third option was to have learners record, either in a notebook or mentally, the occasions where knowledge or skills learned in class were transferred to activities at home, at work or in the community. They could also note changes in their confidence level as a result of their learning. The fourth option was to have a test or type of quiz on course concepts. This option was



for those who believed they would like a supportive opportunity for practice in employment screening.

Most learners cooperatively and willingly chose to fill in the checklist at the end of each session. In some cases, checklists were taken home to review, fill out and cross reference with class hand-outs. This was combined with written and oral comments about what stood out as a significant learning. A few people chose the second strategy and did either an in-class project or a project-based home assignment relevant to work, home or personal interests. Most people agreed to keep track, if not with paper and pen, as least mentally of any incidences of learning application outside the classroom. For the fourth option, no one elected to take a test.

Monitoring the Results and Reflecting on the Action Research Project

Results of the implementation of the action strategies were monitored using a number of different approaches. Without exception, participating learners were part of a group discussion or a one-on-one conference meeting. At the end of each session, instructor and learners discussed freely the advantages of the action strategy they had chosen. As well, written feedback was received from students who composed short comments on their checklist sheets.

A post-course, follow-up telephone conversation with learners two to three weeks later was another monitoring method. The dialogue largely focused on transfer of learning and application to daily activities with some inferences to adult learning. Finally, the instructor's electronic record of observations, reflections and conversations after each class became a method of introspectively documenting the impressions and outcomes.

The monitoring process resulted in three distinct outcomes. First, the learners affirmed and recommended the use of a checklist as a useful tool for learning. Group discussions revealed numerous advantages about its practicality. Learners stated that the checklist was useful:

- for reviewing purposes,
- as a measure of what they had learned matched against a self-assessed rating scale,
- for learning new terminology harmonized to a concept or skill,
- as a summary and an instructive tool for thinking back on what was taken.

One learner remarked that the checklist helped her to break concepts into discrete skills which was of assistance in identifying what she needed to know. Feedback on the checklist rating scale was also positive because it acknowledged that learning proceeds on a continuum and is constantly

growing and evolving. Two students articulated that a checklist would not necessarily be an effective mechanism for retention as a summative evaluation strategy if the class was large. Overall, the small group discussions that focused on the checklist strategy rounded out a meaningful summary of the learning event and helped to describe aspects of specific learning.

The other options that were chosen also produced viable results. For those who completed the homework assignment or an in-class project, this exercise served as an excellent instructional strategy for reinforcing and strengthening learning. Learners were able to build a product that verified learned skills and at the same time presented an opportunity for creativity. One learner mentioned that working on the project fit his learning style and supported his way of 'thinking through' the skills learned. His project resulted in the creation of a comprehensive home budget spreadsheet utilizing the course concepts. The checklist helped him to ensure that all the concepts were used in the project.

Follow-up phone calls with learners who chose to track any incidence of learning transfer outside the classroom, revealed that, in the short time period following the end of the course, there had not been an opportunity for application of the learning yet. Although in a more recent class, one learner announced she would be using what had been learned on the job the next day.

An interesting and unintended outcome of the action strategies revealed the importance of providing a take-home resource that learners could use as a reference outside of the classroom. Hand-outs are distributed to participants, and as expressed by many learners, are critically important. One learner commented "if they didn't use the skill down the road, the hand-out was a useful guide". Attention to details of designing and developing an effective and well-organized hand-out or manual has the capacity to advance learning beyond the classroom.

A number of observations and conclusions about the process and outcomes of the action research project can be noted. The collaborative component to the action research process was an enlightening and gratifying experience for the instructor. For learners, their involvement through critical discussion and examination of their own

learning, may produce a greater appreciation of learning dynamics in a think aloud way. For many learners, in a highly charged fast paced existence, taking time to reflect on what they learned is an uncommon occurrence with possible good results.

The instructional strategies which were the direct outcomes of the research, became a catalyst for engaging learners and instructor in thoughtful, evaluative activities and were introduced for the first time. The positioning and inclusion of learner evaluation with instruction, influenced by the multiple perspectives, has produced changes and improvements in the educational practice. It would appear that learners, through verbal articulations and positive body language, have endorsed the new method of thinking about and assessing their own learning.

A basic premise of the action research methodology is it's cyclical nature. Thus, it is anticipated that the process will become iterative as further development and revision is made of the evaluative approach to learning instruction. This process has the potential for producing a modifiable tool for individual learner assessment.

About the Author

Julie Salembier is the instructor/coordinator at the Molson-Edmonton Learning Centre. She is commencing her sixth year there and has been involved in adult education and project work in workplace essential skills for 12 years.

Action Research Case 2

Building Teams for Better Success

The Workplace Context

Dofasco is Canada's most successful steel producer, serving customers throughout North America with high quality flat rolled and tubular steels and laser-welded blanks. Dofasco's advanced facilities in Hamilton, Ontario, produce hot rolled, cold rolled, galvanized, Extragal™, Galvalume™, tin-plate, chromium-coated and pre-painted flat rolled steels, as well as tubular products.

For nearly a decade, Dofasco has pursued a strategy that provides the foundation for sustainable growth and increased value for all their stakeholders by differentiating the company in the marketplace. That strategy has four main elements:

- Solutions in Steel™, which builds strong customer relationships by employing new and unique technologies to produce value-added products,
- Operational excellence, which results in maximum operating performance reflecting their focus on improving what is important to their customers,
- A knowledgeable, resourceful and dedicated workforce, that flourishes in an environment rooted in Dofasco values and that rewards performance and innovation, and
- Financial strength, which enables them to invest and grow with their customers.

In 1997, as part of this strategy, Dofasco initiated the development of a Workplace Essential Skills Program to offer employees the opportunity to improve their literacy and technology skills. One department, Plant Services, was chosen to spearhead the initiative from within the company and a number of community-based educational service providers were contracted to provide the curriculum design and instruction.

The initial design included five community partners (local school boards, college, and the local literacy council) and a government funded project coordinator. As the

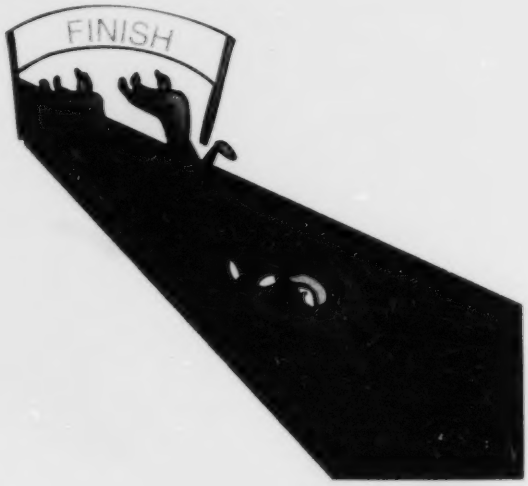
program evolved, however, the funding model ceased to exist, the service providers changed, and Dofasco decided to institute a brokering model and make it a priority for this program to involve a range of community partners in the delivery of the class sessions. Dofasco partnered with a local broker, the Adult Basic Education Association (ABEA) to coordinate instructional service providers within the Hamilton community. This program has been highly successful and has continued to grow in both number of students and variety of the courses being offered.

Finding a Starting Point

As the Dofasco program began to grow, it started to experience subtle changes in a number of different areas that can be seen as "growing pains", common for any instructional program moving from a small to a mid-sized initiative. Some of the changes included a slight increase in class sizes and a higher-turnover in staff and students. As a result, it became more complicated to schedule classes and match individual students to the appropriate level of instruction. With more classes offered it was necessary to bring in more teachers, and this introduced a variety of new personalities into the informal setting created by the program team.

As a result, information gaps began to appear between instructors, team members, the brokering organization and the community service providers. Expectations were not clearly defined and the instructors were left to their own devices to develop and implement curriculum in isolation. The impact of this scenario was not immediately apparent. Over the span of the next two class sessions, however, it became evident that the success or failure of a given class was more dependent on the personality of the instructor than on the strength or delivery of the curriculum materials. There were a number of instructors delivering similar courses at similar levels of difficulty to different participants using completely different methods. This resulted in course materials, delivery methods, literacy outcomes, and evaluative strategies all being prepared independently by each instructor.

By the end of the first session, participants were already having difficulty moving from a completed course to the subsequent course at the next level. The difficulty caused participants to drop out of the program and instructors started to feel as if they were competing for students. With the increased stress of "performing" as well as providing quality instruction, the turnover



amongst instructors started to rise, once again introducing new instructors, with varying personalities and experience, and the information gap continued to grow.

Developing Action Strategies

Using the Kuhne and Quigley model of action research, an action strategy is developed early in the research cycle, based on an analysis of the existing situation within the workplace context, and then observations are made and data is collected to either support or revise the intervention. In either case, the goal is to use the gathered data to refine the action strategy and build the most effective implementation plan possible to successfully address the situation.

There were two major factors that had an impact on the development of the action strategy in this workplace situation: my personal teaching and training experience and discussing the scenarios with colleagues. The development of this action strategy began with consideration of the situation based on my personal experiences as a teacher and trainer. This reflective process generated several feasible strategies to address the challenges facing the program. Once the options had been conceptualized in greater detail, the next step was consultation with colleagues.

Several colleagues familiar with both workplace essential skills and the concepts of action research were approached and provided with a brief summary of the current situation and workplace context. Many possible strategies were discussed, each one approaching the situation from a slightly different angle or perspective. Five key elements were identified:

- Isolation of instructors
- Gaps in information being provided to instructors
- Lack of consistency in the delivery methods and content materials
- Instructor-dependent success rate for each course
- High turnover of instructors and participants

Of all the strategies discussed, the only one that addressed all of the elements was the concept of developing a structure for instructor team-building and mentoring. The actual intervention designed to accomplish this outcome included a series of four team-building sessions:

Instructor Introduction Session — designed to introduce all of the instructors to each other and the program. The session was informal and included several team-building exercises to release tension and start the bonding process.

Procedures Development Session — designed to provide a forum for instructors to discuss and design a common student tracking system that can move through the classes with the students, and discuss the development of general procedures to assist the instructors.

Professional Team-Building Training Session — designed to provide a high level

session for team building with a professional team-building consultant.

Curriculum Development Session — designed to provide a forum for the instructors to discuss curriculum issues and work together to streamline the delivery and set learning standards and guidelines to increase the efficiency and effectiveness of the program as a whole.

Theoretically, providing the instructors with a more team-oriented atmosphere would eliminate the isolation and information gaps, provide a vehicle for the development of new, consistent curriculum and delivery methods, increase the success of the program as a whole and reduce the levels of instructor stress, consequently lowering turnover as well. Based on this information, the research question for the project was defined as:

> *Will applying team building concepts with the instructors increase the effectiveness of the program?*

The only remaining step necessary before creating the implementation or action plan was the development of the measures of success for the project. Criteria had to be established to determine whether the observations and information gathered provided an accurate answer to the research question. Based on the situational information and the research question itself, the following criteria were developed. The intervention would be a success if:

- The consistency of instructional quality increased
- An orientation program for new instructors was created
- Interaction between instructors increased
- Shared curriculum resources were created and made available to all instructors
- Staff and participant mentoring increased
- Instructor and participant turnover decreased.

Understanding the Situation

Implementation Plan for the Action Phase

The Dofasco Essential Skills Program has a 12 week session that runs twice per calendar year — February to May and September to December. This information, along with several other factors, had to be taken into consideration when developing the timelines for the action research implementation plan. The factors included the 12 week program schedule with start and end dates, the impact of summer months on the instructors' availability, and the time

needed for instructors to internalize the intervention and make changes in preparation and delivery.

With this being the case, a three-step plan was developed for the action phase: gather information before the intervention, implement the action, and gather information after the intervention. In each of the information gathering phases, the same methods were used to make direct comparison of the information more feasible.

Data Collection Methods

Four data collection methods were chosen for use with this project. Each method is described below in the context of the planned implementation.

Existing Evidence (written, unwritten) focused on two main areas: collecting existing information regarding the instructor and/or course performance evaluations or feedback sheets from management, Essential Skills Team members, and course participants and researching team-building strategies, as related to instructors if possible, drawing from personal experience as well as external sources.

Observing and Documenting Situations was done over three time periods — before, during, and after intervention. The first period involved organizing a meeting of all instructors and introducing the concepts involved in this research project. The second period took place during the intervention or action section of the project, and included observations during the team building and group activities. The third period mirrored the first with an instructor meeting being organized to review the results of the project.

Observation notes for all three time periods were made relating specifically to the following topics:

- levels and types of interaction between instructors
- willingness to consider ideas and implications
- willingness to share teaching techniques and curriculum
- loyalty to program

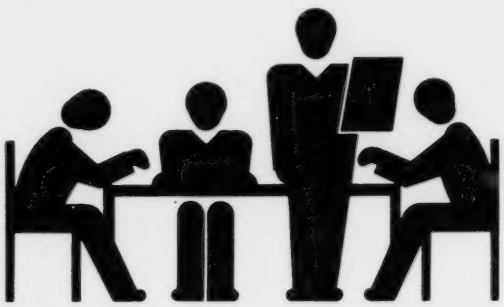
Interviews were conducted with program management and instructors. Each data source included both structured and semi-structured interviews and focused on gathering information to assess perceptions and attitudes toward the program, before and after the intervention, taking special note of changes caused by the intervention itself. The individuals interviewed from program management included human resources staff, department managers, and Essential Skills Team members. Instructor interviews also provided rich information.

A **questionnaire** was developed for the program participants. The goal was to provide questionnaires for all participants of the classes involved in the project before and after the intervention and a random

sampling during the intervention. The questions were designed to gather information about the participants' level of satisfaction with the program materials, instructor delivery methods, and the program as a whole.

Making Sense of the Data

As the data was being generated, the constructive method of analysis was used to catalogue and sort the information into relevant groupings. Four groupings emerged from the data: project team expectations, the instructor point of view, the outside observer, and the participant party. As the project progressed, each of the groupings began to develop distinct themes and concepts.



Project Team Expectations

The project team was a well-established group with several years of experience in the original program. As it grew to include other departments within the company, a new branch of the team was established. Both teams provided feedback through this process. The main themes that emerged for this category were: a desire to see the continuing growth of the program, a dedication to involving as many community providers as possible, a view of the instructors as the experts in terms of curriculum and delivery methods, and a desire to see the instructors working together to deliver the program.

Instructor Point of View

Each instructor represents a distinct service provider within the community. Most are well known and respected within the teaching community and are in demand for similar programs throughout the city. All of the instructors work on a full-time basis for their provider and are involved in this program as an extra contract. Each instructor involved in the project had an opportunity to provide input and feedback which developed into a number of recurring themes throughout the process. The two most common concepts were the need for a designated instructor team leader to act as liaison between the instructors, the broker organization, and the program team, and a forum for instructors to freely exchange ideas, vent frustrations, and compare materials and delivery methods. These themes emerged from comments regarding uncertainty around expectations concerning what materials to include in the courses, how to deliver the material, field trip opportunities, absentee procedures, who was responsible for providing resources, how to develop outcomes for the course and how to track student progress, as well as having access to information about what other instructors are doing.

Outside Observer

Several individuals are involved with the Essential Skills Program as independent contractors with specific roles to play. This includes the broker organization representative and an objective evaluator brought in to evaluate the progress of the participants. Under this category there were several common themes that emerged from the data. The first was a need for greater interaction within the group of instructors in regards to curriculum development and delivery methods. The second was a need for a more structured orientation for new instructors with emphasis on procedures and course outcomes development.

Participant Party

The participant group was made up entirely of individuals taking the courses that were included in the action research project. The members of this group were given a short questionnaire before the intervention and then the same questions after the intervention was complete. The most common themes that emerged were: participants are still unsure as to what is taught in each course and what level of knowledge is required as well as concerns about the evaluation process. However, overall there was an agreement that the courses had improved after the intervention.

Monitoring the Results and Reflecting on the Action Research Project

Originally there were four scheduled team-building sessions: an instructor introduction session, a procedures development session, a professional team-building training session, and a curriculum development session. During the course of the intervention, however, only the first two sessions took place. It turned out to be immensely difficult to arrange meeting times when all of the instructors could attend. Each of the instructors represent a provider and work full-time for that organization above and beyond what is expected in this program. As a result, there was not a single time that all of the teachers could attend during the available time period. During the first two sessions only 60% of the instructors could attend each session. Based on this situation, it was decided that the final two sessions would be cancelled, and the post-intervention data gathering would take place instead.

Based on a comparison of the pre and post intervention data, and scheduled changes for future program sessions, it became evident that the answer to the question *"can instructor team building increase the effectiveness of the program?"* is yes. All of the criteria for success can be addressed through the data collected and the

proposed changes to the program. Starting as soon as the next session, one of the instructors will begin the role of informal team leader and start working with the instructors to coordinate the consistency of the curriculum and delivery methods as well as the development of an orientation package for new instructors. It will require several sessions to determine if issues of instructor and participant turnover have been resolved, but all indications at this point are positive.

While reflecting on this project, several areas emerged as challenges to the future growth and success of this program. The first, and foremost, is the importance of communication between the Essential Skills Team members, the broker organization, the community providers, and the instructors themselves. It is imperative that this program, and any other instruction-based initiative, stand successfully on the strength of the curriculum and delivery methods based on the outcomes and skill development inherent in the courses and not on the personality or performance of individual instructors. The second issue centres on the use of the brokering model which encompasses as many community providers as possible. While this model has its obvious benefits in terms of community involvement, it is crucial to recognize its limits as well. The greater the number and variety of providers, the more essential it becomes to ensure that all the instructors are involved in the team building process. As the program continues to grow, its future success will be closely tied to how well these two issues are addressed.

About the Author

Pieter Toth is a certified teacher and professional corporate trainer. He is currently the Program Coordinator for the Adult-Based Continuing Education and Training Corporation and a strong supporter of productive partnerships between business and education.

Action Research Case 3

Creating a Self-Directed Learning Environment

The Workplace Context

Bristol Aerospace Limited, a member of the Magellan Aerospace group of companies, is a strategically diversified Canadian aerospace company with 70 years of experience in the aerospace industry. Bristol operates from three facilities in Winnipeg, Manitoba, and employs close to 1200 workers.

The company is a pioneer in the aviation and aerospace industry with a reputation for manufacturing quality products. Whether in civil aerospace or defense, their commitment to innovation in design and manufacture and their dedication to quality allow Bristol to meet the challenges of today's global marketplace.

The Learning Centre at Bristol Aerospace Limited was established to support all Bristol employees in education and training. At times, the Centre partners with other companies such as Standard Aero and Aerorecip to deliver evening courses, when there is a common need. The Learning Centre's mandate is to support the company in achieving its strategic goals by ensuring that employees have the knowledge and skills to do the tasks they are assigned. This translates into coursework and training directly related to their jobs, but does not stop there. The Learning Centre anticipates and provides programming to support employees and help ensure their success. A good example of this is found in the Green Belt Statistics Support Training, and in the Essential Skills in Mathematics course, where this particular research project is situated.

Finding a Starting Point

My involvement began when I was asked to develop the mathematics component of a Workplace Essential Skills program for employees at Bristol Aerospace Ltd. The program needed to be flexible enough to address the needs of all employees in the company — from line workers to engineers. The program was to be delivered in seven modules each in a three hour session. The

company would match the employee for time spent in class. In order to meet the various needs of participants, I set up an individualized program using a student-led, teacher-assisted model.

As instructor, I met with each learner in an initial interview to familiarize them with the program and to assist the learner in identifying learning goals and in choosing topics for study. Then I provided each learner with an individualized learning package that identified learning materials for each topic they were interested in pursuing. Sessions consisted of:

- learners working independently;
- learners working cooperatively;
- instructor assisting independent work;
- "break-out" discussions of topics of interest to groups of students;
- teacher-led instruction/discussion of topics of interest to groups of students;
- teacher-led learning activities of topics of interest to groups of students.

In every case, students were asked to take the lead in deciding how they wanted to work, what topics they wished to pursue, and how quickly they wanted to progress through the materials. My role as instructor was to support and assist by making recommendations, facilitating discussion, monitoring progress and providing information and instruction.

Seven cycles of instruction were delivered using this format. There were many students who flourished in the learning environment, opting to take several cycles of instruction, and experiencing much success in meeting their learning goals. There were also those who never quite attained a comfort level with the extent of expectation and responsibility given the learner in this self-directed learning environment. Some of these learners simply stopped attending. At the end of two cycles of instruction one learner suggested that the program would improve if she could be informed ahead of time about what she would be working on in class. By doing so, she wouldn't have to take so much time figuring that out at the onset of each session.

This became a starting point upon which to base the action research project. The initial research question was:

> *How do I adjust my teaching style to accommodate learners who are not yet ready for self-directed learning?*

Particular Constraints for This Project

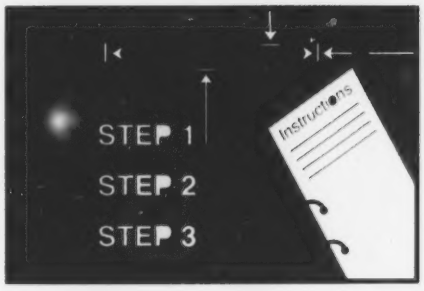
At the onset of this project, I was just completing a cycle of instruction for the Essential Skills in Mathematics course, with no plans for another cycle of instruction in the immediate future. Implementation of an action strategy with learners in this particular program was not feasible within the time frame set for this national project. However, a related opportunity presented itself as I had been asked to develop and deliver some modules of training to support the Green Belt methodology training offered to employees at Bristol Aerospace Ltd. The training modules were to cover the use of various statistical tools that could be used in carrying out a Six-Sigma quality control project.

Learners were already receiving Green Belt training in four two-day workshops held: April 18-19; May 23-24; June 27-28; and September 12-13. Over the course of this training, learners were expected to conduct a Six Sigma project. Learners in past programs had found that lack of proficiency with the statistical tools proved to be an obstacle in trying to complete the quality project. As a result the Manager of Staff Development wanted to support the Green Belt learners by providing them with optional modules of training in the use of statistical tools. There seemed to be some commonality between these modules of training and the Mathematics Essential Skills program. It was hoped that I might engage learners in this Green Belt Statistics Support Training using action strategies developed through reflection on what I had learned from past cycles of the Mathematics Essential Skills program

Understanding the Situation

Data Collection Methods

In an attempt to understand the problem more clearly so that I might develop an effective action strategy, I turned to several sources of data. Firstly, I compiled any existing evidence from past cycles of instruction I thought might be pertinent to the situation. This took the form of learner log entries, learner-written program evaluations, my own journal entries, field notes and anecdotal records, attendance records and my own program evaluation summaries. Secondly, I conducted a semi-structured interview with a learner who had completed a cycle of instruction in the Mathematics Essential Skills program. Another data collection method was the field notes from meetings with colleagues, the Manager of Staff Development, the instructor of the Six-Sigma training workshops, and employees who had previously taken Green Belt training. I also attended the May 23-24



Green Belt Training workshop and made notes of my observations of that session. Finally, I turned to the literature on self-directed learning and in particular the writings of Merriam & Caffarella (1999).

Making Sense of the Data

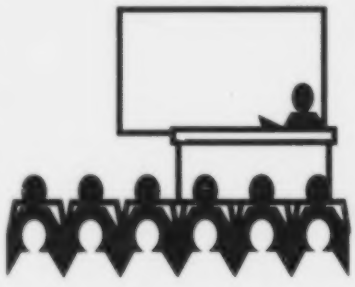
As I studied the data, a number of themes stood out as playing a key role in a learner's readiness to engage in self-directed learning. One recurring theme surrounded the fact that a learner needs to already possess a certain amount of knowledge on a subject before he/she is capable of making informed choices about which learning path to take. Providing learners with a vision of the content possibilities, along with some idea of what those possibilities might entail seemed to be central to this theme.

It also became clear that learners who experienced difficulty in the self-directed learning environment tended to rely on the teacher to give direction on what to do, when to do it, and how to do it. This seemed to go hand in hand with trying to "get away" with doing less. The motivation to complete the task focused on meeting the teacher expectations, with little thought given to the quality of learning or personal growth. An example illustrates this point. A learner was thrilled when I told her it was entirely up to her as to how she could use a calculator. The feeling was short lived, however, when I pointed out to her that it all depended on what she decided was a

learning goal. If she wanted practice in the use of a calculator, or if she was engaged in high level problem solving, and didn't want the mechanics of arithmetic to get in her way, then the use of a calculator would definitely be called for. On the other hand, if she was working on building her own skills in arithmetic operations, then completing the problems with the calculator might not match the learning goal. She reluctantly chose to put the calculator away, and carried on with her work. Coaching each learner towards identifying personal learning goals, and helping learners evaluate learning choices in terms of how they might work towards achieving that personal learning goal seemed to be crucial. Furthermore, explicit negotiation of the roles in a learner-led, teacher assisted model is needed in moving a learner towards self-direction.

Developing Action Strategies

First, I needed to educate myself as to which topics in the study of statistics might be useful when carrying out a Six-Sigma quality control project. I studied the learning materials being used by the Green Belt learners in their training workshops, and I attended the May 23-24 Green Belt training workshop which introduced the various statistical tools and tests of significance. In an effort to engage the learners, an electronic message went out to every participant in the Green Belt training. The contents of the message notified them of the support training; suggested possible topics; invited their input on the selection of topics that would be offered; and invited them to attend a meeting where details of the support training could be negotiated. This meeting helped to determine the time, dates and topics for training sessions.



Training took place over the course of seven sessions between May 28 and June 12. The actual topic presentation took place from 10:00 a.m. until 11:00 a.m. In addition, the instructor was available for an hour prior to and an hour following the formal presentation, to answer any questions and address individual needs. Handout material consisting of summary notes and practice questions with guided solutions on the topic of instruction were also provided to learners.

Monitoring the Results and Reflecting on the Action Research Project

Data Collection – Phase 2

Throughout the delivery of the Green Belt Statistics Support Training and afterwards, I drew upon several sources of data to reflect on the effectiveness of my action research strategies, as well as how they might be refined and improved. As a participant-observer, I kept field notes and anecdotal records during the Green Belt Statistics Support Training. In the final session of this training, I conducted a round-table discussion with participants asking for verbal feedback. Following the training, the Learning Centre sent out an electronic evaluation survey to all program participants asking for structured as well as open-ended feedback on the Green Belt Statistics Support Training. I also continued to search the literature, and found the writings of Grow (1991) to be particularly useful.

Making Sense of the Data – Phase 2

As the research evolved, I realized that my initial area of focus needed to be broadened. Readiness on the part of the learner was only one dimension of a complex set of circumstances influencing the effectiveness of a learner-led model for instruction in a

particular situation. As I reflected on my findings, I discovered some key points I had previously overlooked.

In particular, it became apparent that the change of context – from the Mathematics Essential Skills program (my starting point) to the Green Belt Statistics Support Training (where I situated the action strategies) – made a significant difference. For one thing, time became a crucial issue with the new group. These learners have many demands on their time, and could not always attend the session. Furthermore, when they did attend, efficient use of their time was very necessary. In fact, my early invitations to learners to take part in choosing the direction of the session prompted some participants to believe that the training was not well prepared. These findings led me to revisit my initial research question.

There is no doubt in my mind that self-direction in learning is a valuable and worthwhile goal to pursue. A survey of the literature would reveal that this topic has received much attention over the years. How I might best enable learners to achieve self-direction and the form that self-direction should take, however, is context specific. My revised research question honours this distinction and is now more contextual in nature.

> *What might I do as the instructor of the Green Belt Statistics Support Training to provide learners with the opportunity for personal autonomy in making choices for their own learning?*

Revised Action Strategies

The cyclical nature of the action research methodology seems to fit well here as a means for improving instruction in the Statistics Support Training. Having gone through a complete cycle of planning, action and reflection I have now revised my action strategies.

The following summarizes my recommendations for future delivery of this program:

- Provide the statistics support training **prior** to delivery of Six-Sigma Green Belt training;
- Sessions 1 and 2 (Overview and Data Analysis) could be condensed into the first session, along with a discussion of the Normal Distribution. This would leave time for more challenging topics in the following sessions;
- The hour prior to the formal presentation was not necessary while the

hour after the content presentation was sufficient to attend to individual needs. This would allow for 10 – 2 hour sessions rather than 7 – 3 hour sessions, and would make better use of learner time;

- A complete set of lecture notes and handouts should be made available to learners **prior** to commencement of training.
- Dates and topics to be covered for each session should be given to learners well in advance so that learners can make time in their schedules to attend those sessions they believe would be most useful to them;
- Training sessions should be sufficiently spaced apart to allow learners time to review and practice with the handout materials. This will help learners know if they require further clarification on a topic.

It is anticipated that these new action strategies will be tested with the next group of Green Belt trainees in the very near future.

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Merriam, S. & Caffarella, R. (1999). *Learning in adulthood: A comprehensive guide*. Second Edition. San Francisco, CA: Jossey-Bass Publishers.

About the Author

Pat Barnson works at program development and delivery in Mathematics and Statistics Education for the Learning Centre at Bristol Aerospace Limited in Winnipeg, Manitoba.

Action Research Case 4

Bridging Gaps: Adult Language Learners and the Internet

The Workplace Context

In Summer 2001, English in the Workplace (EWP) and the Immigrant Entrepreneur Orientation Program (IEOP) partnered in a pilot project to provide a customized Business English course for Immigrant Entrepreneur Orientation Program participants. English in the Workplace is a language program for newcomers that has been in existence in Halifax, Nova Scotia since 1994. English in the Workplace objectives include:

- continued access to language training for ESL learners who leave Language Instruction for New Canadians (LINC) programs before a graduation level is achieved because of economic and family responsibilities which require them to seek and maintain employment
- provision of language training for clients who, because of conflict with their own schedules, have not and will not be able to participate in LINC programs
- promotion of awareness among local employers of the language training needs of newcomers.

Structurally, EWP consists of an instructor and a manager who oversees the program. This initiative is based in the Halifax Immigrant Learning Centre and is the only program of its kind in the province. It is currently funded by the Nova Scotia Department Education, Adult Education, Workplace Education Division. The average English in the Workplace contract consists of a maximum of 48 core hours of small group language instruction spread over a 4-10 week period. Length of a program is determined by factors such as instructor availability and workplace needs. Program curriculum is customized based on supervisor and learner needs assessments.

The Immigrant Entrepreneur Orientation Program (IEOP) is one of many programs offered at the Metropolitan Immigrant

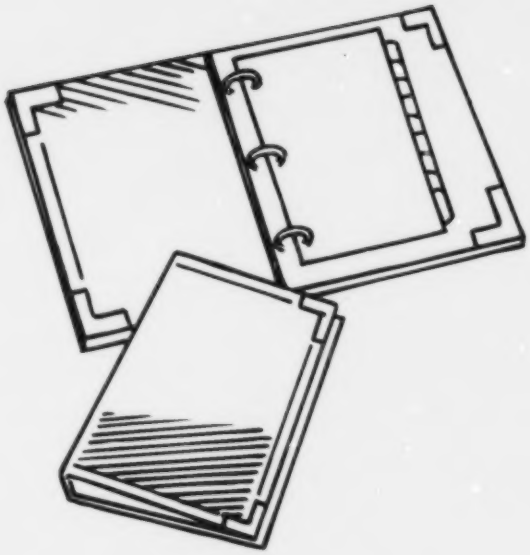
Settlement Association (MISA) in Halifax. IEOP's goal is to provide participants with the information, contacts and the confidence newcomers need to establish a business in Nova Scotia. IEOP is funded by the Atlantic Canada Opportunities Agency – Nova Scotia Economic Development.

English in the Workplace and MISA have a history of working collaboratively in order to provide a variety of workplace related language training opportunities to newcomers. IEOP requested an EWP instructor to pre-teach content and vocabulary related to training before and after their business information seminars. It is within this context, that the action research project was situated.

Finding a Starting Point

IEOP Business information seminars are provided by an array of experts in the field who generously volunteer their services. Topics which are delivered lecture style for one and a half to three hours include:

- networking skills
- economic overview of Nova Scotia
- business culture
- business planning
- accounting and taxation
- business and law
- buying and selling a business
- import/export
- NS Labour Standards
- hiring practices



Written materials are also provided for participants to keep in a business resource binder. The IEOP seminars are scheduled from 9 am-12 am twice a week for a total of 36 hours for the entire program. Former IEOP participants indicated a need for a complementary language component prior to the information seminars to assist with understanding content, vocabulary and the formulation of questions.

During the IEOP registration process 23 out of 25 IEOP seminar participants indicated an interest in attending the Business English class. Participants come from diverse backgrounds-culturally, educationally, and economically. Some come from a business background whereas others are looking at self-employment for the first time. The registration forms revealed that the average student had a Canadian Language Benchmark (CLBA) ranging from Level 3 to Level 5.

The 23 participants were divided into two groups for the English class which meant organizing 90 minute classes. The instructor was contracted to teach the English class for 3 hours two mornings a week. All participants, the instructor, and the IEOP Co-ordinator came together for the 3 hour seminars. A half-hour break in between classes would give the instructor some "breathing space" and the chance to take a break before the second IEOP Business English class arrived for instruction. It is customary that the EWP instructor is approached by numerous participants asking additional questions related to class content and/or the English language before class, at breaks, and after class. The reality is the instructor is usually juggling two language programs daily so it is necessary to pack up promptly in order to teach a different class at a different site in the afternoon. Time constraints are a constant.

Given these circumstances, class time is centered tightly around the content which means there is little time for free form conversation related to participant business ideas and strategies, transferable skills, business background, and entrepreneurial self assessment. These types of conversations provide valuable input for the instructor.

Developing an effective teaching style within this milieu raised many questions. How can the instructor effectively address participants' language needs when there are strict time constraints? How can the instructor meet additional objectives set for each EWP program which includes discussion in order to foster a comfort level with the language? How can the instructor reduce the amount of times she says, "I'm really sorry but I have to go." All these concerns pointed to the following action research question.

How can the Internet assist in achieving teacher/participant objectives when there are program time constraints?

Understanding the Situation

Data Collection Methods

Four methods of collection were used to shed light on the research question. The first method involved discussion with IEOP staff, EWP and the workplace education instructors. All staff and instructors agreed that an e-mail option would be an interesting component to add to the program. These discussions centered around whether this action was feasible and if technology could assist the instructor in reaching both participant and instructor objectives.

The second method involved collecting data from two separate questionnaires given to participants. The first questionnaire

focused on questions related to computer accessibility, e-mail accounts, computer skills and current e-mail addresses. The second questionnaire dealt with comfort level, actual e-mail skills, research ability using the Internet, hours per week that participants spent on-line, and a request to self-identify if assistance was needed in any of these areas.

Five participants indicated a desire to open an e-mail account and a need to become more familiar with the process. A short comprehensive training session on the e-mail process was set up to assist them with their Internet needs. Two participants well versed in computer training volunteered to set up e-mail accounts and to teach the fundamentals of the process one-on-one.

The third method centered around the instructor's journal file. Prior to start up of the class and throughout the program the instructor took notes on the delivered content, the customized lesson plans and issues around time constraints. Electronic correspondance with workplace education colleagues were printed and added to the journal along with notes from TESL Canada articles on use of e-mail within the context of the classroom. Casual conversations with colleagues related to the program and the research topic were also briefly documented. The issue of addressing the language needs of such a large, multi-level group within such a strict time frame became more apparent.

The fourth method included discussion with participants regarding language needs, and how to foster the practice of the content vocabulary in smaller groups. The instructor also reviewed IEOP intake forms to compile a list of participant objectives.

Making Sense of the Data

After sorting the information, the data was separated into four piles and read over a week period since the class was scheduled to begin shortly after. The piles were classified into the following categories:

Category 1 – Colleague feedback

Category 2 – Participant readiness

Category 3 – Will e-mail assist in meeting instructor objectives?

Category 4 – Will e-mail assist in meeting participant objectives?

Data was reread, selected, utilized and coded.

Colleague Feedback

Data from the discussions with IEOP and EWP colleagues and former EWP and workplace education instructors about the utility of an e-mail component clearly indicated that the use of technology was a viable option in dealing with time constraints.

Participant Readiness

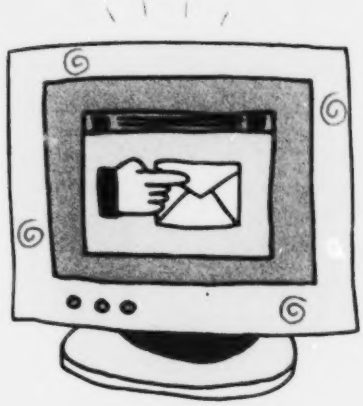
After analyzing both computer questionnaires the data also indicated that participants had the resources and the ability. The majority of the participants had computers with Internet access at home and actively used the Internet for e-mailing. Those who did not have computers or Internet access at home were informed that they could use the MISA Computer Lab. In reference to Internet usage:

- 20% used the Internet 0-1 hours per week
- 30% used the Internet 1-3 hours per week
- 25% used the Internet 3-6 hours per week
- 25% use the Internet 6 plus hours per week.

Percentages were similar for participants who had e-mail accounts. Those who indicated limited skill and/or knowledge of the Internet and the e-mail process voluntarily attended the e-mail training sessions arranged after the English class.

Will e-mail assist in meeting instructor objectives?

After analyzing the questionnaire data and the journal entries, it was concluded that an e-mail component would encourage an opportunity for the instructor to further meet EWP objectives by providing additional opportunities for English practice through discussion.



Will e-mail assist in meeting participant objectives?

According to participant intake forms, discussions with the IEOP Co-ordinator and participants, the objectives for taking the Business English class included:

- obtaining new vocabulary
- language functions related to business
- vocabulary related to seminar topics, and the opportunity to practice both their English and the new vocabulary.

Based on the data, it was apparent that some participants were struggling with the language skills needed for the course within the class time restrictions. Therefore, the option of e-mailing was confirmed.

Developing Action Strategies

After carefully considering the data, the instructor felt that participants were both capable and eager to engage in electronic instruction as a means of reaching

the program objectives. The instructor also wanted to incorporate learner information into the class after permission was obtained and made it clear that all e-mail submissions were confidential. It was reaffirmed that those who did not have access to the Internet at home could utilize the MISA Computer Lab.

An e-mail was sent to participants once a week over the six week program period. These messages included a variety of requests for submissions aimed at engaging participants in discussion. Initially, an entrepreneurial self assessment quiz from Human Resources and Development Canada was sent to all participants. Other communications included: a summary of the business culture in their homeland, a description of their business idea, and responses related to their business idea. In total, over 45 questions related to the area of the business idea were sent electronically. The instructor checked e-mail on a daily basis and ensured that requests were responded to before sending out another weekly e-mail.

Monitoring the Results and Reflecting on the Action Research Project

Four approaches were used to monitor the action strategy: e-mail submissions, individual feedback, group feedback in the form of a questionnaire, and colleague feedback. Approximately half of the class used the electronic mail system numerous times. A considerable number of the Asian students who were not vocal in class were very animated in their submissions. For example, a non-speaker in class wrote:

> "Frankly speaking this course is a sort of difficult for me because I have rather poor listening comprehension I have only been in Canada for 3 months. Anyway I will do my best to succeed in this program. Your kind help and co-operation would be appreciated in the future."

Another participant wrote:

> "Maybe my thought is too naïve. I don't know where I can find a customer, how I can talk to him, what I need. Maybe I will learn about above in this program. What suggestions do you have?"

While a learner hesitant to speak during class time wrote the following:

> "We Koreans do not use first name in business. We always use Mr. or Ms. with surname. Nowadays many foreigners come and do business in Korea. So using first name is more familiar than ever before. But I think it is still kind of a rude thing in Korea. In official meeting higher status person shakes hands first Today I went fishing. I am very tired now".

Some participants wrote very eloquently about their business plans and provided business culture submissions that were both informative and infused with personality. All gave permission to share their submissions with the class which lead to continued participant discussion during breaks. These submissions also provided insight into the learner's plans and language ability related to promoting their business idea. The information proved invaluable for the final report and IEOP staff.

A final on-line questionnaire polled 20 people about their Internet usage during the program. The majority of the participants cited time constraints as the main reason for their lack of response while half of the respondents identified lack of time due to work and family responsibilities and the need to reread the seminar material.

Two learners were asked to provide feedback after the program had been completed. One learner who routinely responded to the instructor e-mails stated that she enjoyed the e-mail component because her English writing skills were strong and she had a clear idea of the type of business that she wanted to start. She also believed that some participants were still vague about their business idea and therefore found it difficult to engage in a discussion. Another learner who never responded to the e-mails explained that work responsibilities, lack of access of a computer in his home and lack of time were all reasons for not participating in the electronic instruction.

Reflecting on the action research project several observations and conclusions can be made. First, technology can only assist those learners who are both truly familiar and comfortable with it. Secondly, most adult participants prefer to talk face to face with an instructor before, during and after class time. It is more personal. Thirdly, once the class ends most participants are less likely to continue to engage in class related activities; especially in the summer when work and family responsibilities become more important. As part of the program every guest speaker offered to correspond with learners via e-mail if they had further questions about web-sites and addresses.

Final evaluations indicated that participants did not follow-up on this offer.

The e-mail component of the program acted as a communication bridge between instructor and participant. Based on instructor recommendations, additional modules will be presented which include Internet business research and communication courses. As well, the combined English class and Business Information seminars will be offered in the next session.

About the Author

Darlene MacInnis has been involved in adult education for the past 10 years, three of which have been with the English in the Workplace Program. She is currently working as the New Beginnings Program Training Co-ordinator at MISA.

Action Research Case 5

An Assessment Procedure to Evaluate Retention of Learner Skills

The Workplace Context

Irwin Seating Company Toronto is a Canadian subsidiary of Irwin Seating Company of Grand Rapids, Michigan. Located in Toronto, Ontario with employees numbering approximately 100, Irwin Seating offers an extensive line of new fixed public seating as well as complete renovation and restoration services for existing fixed public seating such as theatre, auditorium, lecture, performing arts, stadium, arena, amphitheatre and home theatre seating. In 1996, they began an Essential Workplace Skills program following a comprehensive needs assessment of the company's communication skills that was conducted by the Etobicoke Board of Education's Workplace Training & Services Department. What made this program outstanding was the fact that Irwin Seating Toronto decided to hold the classes completely on company time. This, more than anything else, was a sign to all employees that this company was truly committed to learning.

After meeting with the instructor to discuss the program's framework as well as the expected learning outcomes, all partners determined that the two hour classes would be held on site twice a week. To date, 30 employees have taken part in the training program. Among the production employees, three groups of participants completed a 200 hour Essential Workplace Skills program while one group completed a basic level 100 hour Essential Skills course. The modules in these classes started with the basics of the alphabet and ended with the ability to read, understand, and explain the Workplace Hazardous Materials Information System (WHMIS). Numerous activities were designed on health and safety, workplace documents, and interpreting company charts and graphs. Another group of both production and salaried employees completed a 200 hour course entitled, "Effective Communication in the Workplace" which

focused on soft skills acquisition such as presentation skills, team problem solving, report writing, effective meeting skills, and conflict resolution.

Finding a Starting Point

As this long term training relationship was coming to a close, with the last training group finishing in July 2001, I began to consider how to develop an assessment procedure to evaluate the retention of learner skills. Initially, when I thought about the term, "assessment", the notion of formal testing immediately leapt to mind. I was intrigued to see if there were other ways to think of assessment procedures. At the same time, I was concerned that the organization was more than ready to "move on" given

that they had been involved in such a lengthy and costly training program. Since this was the case, concluding the program with the requisite handing out of certificates and shaking of hands would be a weak finish given that a four year training relationship had been established. All of the company's stakeholders —program participants, other Irwin Seating Toronto employees, and the organization as a whole— could become dissatisfied and perhaps disillusioned with the entire training experience if there were no assessment mechanism in place. It would be all too easy for those at Irwin Seating to ask, "What was all that training for?" To avoid this scenario, I believed it was critical, as a training provider, to address the issue of putting an assessment procedure in place to ensure post training customer care. With this in mind, action research methodology was implemented to investigate the following question:

> *How can I develop an appropriate assessment procedure to evaluate the retention of skills learned upon the closing of a long-term workplace training program?*

Understanding the Situation

Data Collection Methods

In collecting data, I began by reviewing mid-program progress reports of all participants at all levels. I was particularly interested in how the courses had provided them with communication skills to become more involved in activities both within and outside the workplace and what opportunities they had to utilize their newly acquired skills. I wanted to investigate which skills the participants retained and in what ways these skills had been utilized. Since I wanted to evaluate the retention of skills, what better place to start than by finding out what the participants themselves had found to be useful and what methods they considered most valuable to retain those skills?

A second method of data collection was a series of interviews with the President of Irwin Seating Company Toronto and the Vice-President of Manufacturing. These interviews were conducted in order to collect data on their perceptions of how to best evaluate the learners' skills retention and their expectations for the participants and the organization as a whole in the post-program period. Interviews were also conducted with the participants of the Essential Skills program as well as those in the Effective Communication in the Workplace course in order to find out their opinions on the best steps to take after the close of the program.

A third method of data collection was a questionnaire completed by both the program participants as well as some employees who had not participated in the program. These questionnaires were used to also determine what would be the best method or methods for the training program participants to retain their skills.

Making Sense of the Data

In analyzing the data, the following steps were followed: reading the data, selecting the data, presenting the data, and interpreting and drawing conclusions. The three data collection methods provided three sources of information. In preparing the data, a preliminary outline was developed whereby the information was sorted into one of three groupings.

Category A – What are the training program participants saying?

Category B – What are those employees outside of the training program saying?

Category C – What are the future needs of the organization?

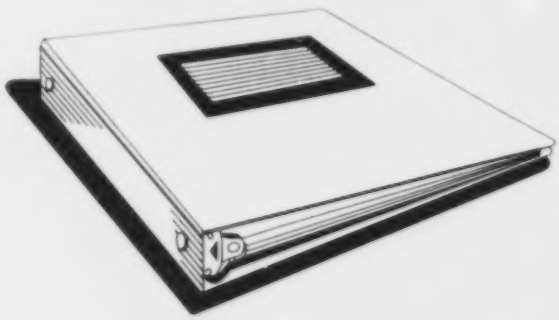
In analyzing the data, I was looking for recurring themes or patterns.

What are the training program participants saying?

In analyzing the data especially from the mid-program progress reports, I noted that vast majority of training program participants spoke of increased confidence in effective oral communication with family members such as with their children and relatives; with friends and neighbours; and with co-workers. This was especially true in cases where participants had been transferred to teams where English is the common language and where co-workers assisted in the learning process by reviewing class material and encouraging social,

non-work conversations. Several participants proudly reported being more confident when they went on vacation as they could participate in tours where English was spoken and they could ask questions. Most did not encounter opportunities to write either at work or at home. What was common to all of the mid-program progress reports examined was that participants very proudly identified a wide variety of situations to practice their oral skills. They did not, however, identify opportunities where they practiced their writing or reading skills either at home or at work.

The participants of the Effective Communication in the Workplace course approached the question of how to deal with the ending of the workplace program by conducting a brainstorming session. This helped determine what their next steps should be given all the learning that had transpired. The class members indicated their desire to develop a tool that would encourage the flow of information and communication among all employees within the organization, namely in the form of an Employee Handbook that would cover associated policies and procedures. The class felt very strongly that all employees needed to know and understand this type of company information. Given the small size of the organization information on the policies and procedures existed, but was not readily available in a single document. They felt that by taking on the task of writing and distributing an Employee Handbook with some assistance from an advisor, would not only demonstrate the use of all the communication skills they had acquired in the course, but would also serve as a way to move forward from the classroom setting. They believed that this project was a real work related opportunity to evaluate their skill retention.



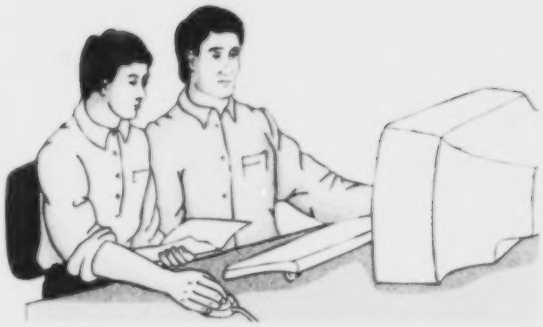
The participants of the basic level Essential Skills class reported that they could now communicate effectively with their co-workers, deal with their day-to-day paperwork, and understand what was being said in the quarterly employee meetings. They also indicated that continued classes at the workplace were not necessary. However, what they did want was to have more opportunities to practice their skills. All of these basic level learners had participated in cross training. Moreover, they had been placed in teams where English was the common language. They strongly felt that this experience, more than anything else had contributed to the strengthening of their English skills. In addition, these teams consisted of employees who supported the

training program. They took a keen interest in the material that was covered in class and helped their co-workers to study.

During the administration of the questionnaire it became clear that many program participants had little or no knowledge and understanding of the various company committees such as the Employee Council, and the Continuous Improvement Team. Upon explanation of the committees, the program participants thought it would be beneficial for them to participate in these learning experiences. They simply had no idea that these opportunities were open to them. After further discussion, they also expressed interest in the idea of learning basic computer skills and assisting in producing company documents such as an employee newsletter. Many of them had purchased a home computer, but few knew how to use it. The opportunity to learn new skills in a non-classroom setting was an empowering suggestion.

What were those outside of the training program saying?

In analyzing the interview data from company personnel, both individuals expressed that a complete break with a learning environment would not be beneficial yet enhanced employee participation in company life was strongly desired in order to foster a greater sense of employee ownership. The President of Irwin had reviewed the initial needs assessment conducted in



1996 and found that the original goals set by the organization had indeed been met and in many cases surpassed. We then realized that recommendations had already been made some years ago with regards to the types of activities the organization could engage in as a result of running a workplace education program. In fact, I had recommended a company newsletter as one example of a tool that could be implemented to allow graduates of the program to utilize their writing skills and at the same time to provide all employees with work-related reading material. This important review of the initial needs assessment sparked a critical brainstorming session that generated a list of exciting initiatives that could be undertaken by Irwin Seating Toronto to foster continued use of acquired skills:

- publish a company newsletter with employee volunteers
- revitalize the Employee Council; a group of volunteer employees from all departments
- revise the Performance Appraisal system to include Peer Review

- utilize written surveys to solicit employee input in changing and/or instituting company policies
- install electronic message boards in the plant and office areas to enhance the flow of communication.

It was through this brainstorming session that senior management members recognized the need for the organization to provide the program participants with many opportunities to utilize the skills they had acquired. It was then suggested that the rate of participation in these initiatives could serve as a key way to assess the retention of learner skills. The greater the rate of participation, the easier it would be to assess skills retention. Moreover, the initiatives would assist Irwin Seating Toronto in creating an organizational environment that nurtured employee involvement and a sense of employee ownership.

In analyzing the questionnaires completed by employees who had not participated in the program, a common pattern was that they all felt learners needed to access as many avenues as possible in order to maintain communication skill levels. For example, updating the Work Instructions for ISO9001 purposes would be an excellent opportunity to maintain skills. This suggestion was particularly valuable because it reminded me that it was the employees themselves who had generated the Work Instructions about halfway through the training program. This task had been tackled in the first place because the company felt that through the Essential Skills training program, employees would be able to assist in the drafting of clear and concise Work Instructions.

What are the Future Needs of the Organization?

Irwin Seating Toronto is a growing organization. With continued growth comes an even greater need for effective communication at all levels of the organization. Since the start of the training program, the company has increased its workforce by approximately 20%, has become ISO9001 registered, and has further developed its employee benefits with the addition of programs such as the Group RRSP (Registered Retirement Savings Plan). As a result of this growth and other business forces, the management of Irwin Seating Toronto has identified a need to formalize its policies and procedures.

Developing Action Strategies

In analyzing all of the data sources, a common action strategy emerged. Irwin Seating Toronto needed to institute company initiatives that would provide those who had participated in the training program with the opportunities to utilize their

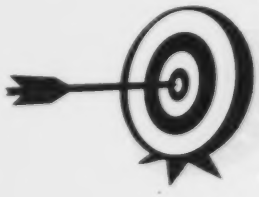
new communication skills. Through these initiatives, the organization would be better able to evaluate the retention of skills. What were the stakeholders requesting especially the program participants? The request was to make opportunities available to all Irwin Seating Toronto employees that will encourage the use of the newly acquired communication skills. The assessment procedure would in fact be a series of company initiatives rather than a traditional written test. The rate and manner in which employees participate in the company initiatives would ultimately serve as the benchmarks for the assessment.

The company initiatives that Irwin Seating Toronto decided to pursue were as follows:

- publish a monthly company newsletter, Toronto Talks, with employee volunteers starting in July 2001
- revitalize the Employee Council, now named the Irwin Communication Team, which meets the first Tuesday of every month
- write and distribute an Irwin Seating Toronto Employee Handbook by the end of 2001
- install three electronic sign boards in the plant and office areas in September 2001
- utilize written surveys on an ongoing basis to solicit employee input in company initiatives such as changing the break and lunch times, purchasing long-term disability coverage, making up hours during the holiday shut-down, and instituting a Perfect Attendance Award system
- revise the Performance Appraisal system to include Peer Review by January 2002.

Monitoring the Results and Reflecting on the Action Research Project

As of late fall 2001, the main approach used to monitor the results of the action strategy has been discussions, either one-on-one or group. Through these discussions, the following results have been noted. Four issues of the newsletter, Toronto Talks have been published with articles and digital pictures contributed from several employees, though none have come from training program participants. After attending the October Irwin Communication Team meeting, I observed that one of the training program participants had joined the committee. As well, six members of the Effective Communication in the Workplace class decided to meet once a week to work on the Employee Handbook. The first draft is currently in circulation at the senior management level and the Irwin



Communication Team for review. In addition, four employee opinion surveys have been distributed with 100% participation.

Reflecting on the project, some observations can be made. Given that the training program came to a close in the summer of 2001, few definitive conclusions can be made at this early point as to the effectiveness of using company initiatives as an assessment procedure. However, early indications show that employees are beginning to participate in these new company ventures. In fact, twenty percent of the graduates of the training program are currently involved in one or more of the following: Employee Handbook, Irwin Communication Team, or the Continuous Improvement Team. Recently, the President of Irwin made an excellent observation on the effectiveness of the company's initiatives in assessing skills. He recounted that in the fall, they held their company barbeque with an Oktoberfest theme. Together with the President, employees from one of the manufacturing departments organized the event. He proudly spoke about how effortless it had been to communicate with the employees and how he could not have done something like this a few years ago. The fact that he could refer to planning the company barbeque in such glowing terms spoke volumes to me. It solidified in my mind the power and appropriateness of instituting company initiatives as the way to assess employees' skills retention. As Irwin Seating Toronto continues to provide opportunities to engage employees in a learning culture, they will be able to regularly monitor and assess their newly acquired communication skills.

About the Author

Grace Nicholson is a Training and Communications Specialist in a Human Resources Department of a Magna Division. She has worked in the field of workplace training for 12 years.

Action Research Case 6

All Signed Up and Somewhere to Go!

The Workplace Context

In 1998, after two years of thorough research, Cominco Ltd. invested its resources in an employee driven, on-site Learning Centre. The Centre delivers courses, conducts workshops, and designs learning paths unrelated to specific job training for the 1800 employees at Trail Operations.

Starting in 1996, the company began to identify a very interesting trend in the feedback from several of its core training courses. Participants reported that they did not always feel that they had effective existing skills and sufficient academic preparation to fully appreciate and integrate their training opportunities. Cominco, now Teck Cominco, has been fully committed to providing workplace training through its five training departments dedicated to this endeavor. Further, Cominco had already flagged that employees on shift could not take advantage of many off-site learning opportunities offered by local businesses and educational institutions. The company integrated these two concerns and saw an opportunity at Trail Operations to enhance the learning environment. This resulted in expanding its learning culture by pursuing and completely financing a concept that addressed the general educational interests of its employees.

The Refresh Education and Learning (REAL) Committee which was formed in early 1997, has been responsible for the development and ongoing operation of The Learning Centre (TLC). It is a joint committee with representation from Teck Cominco's management and the United Steelworkers of America Locals 480 and 9705. The REAL Committee has contracted with the Open Learning Agency of British Columbia for the successful delivery of this workplace learning centre.

Looking to the Learners

Very early in the process, the REAL Committee recognized that the learners would be the best source of information for providing direction on the Centre's

development. Through in-depth and across site surveys and focus groups, the learners defined the kind of learning centre they envisioned. These employees identified that they needed:

- the opportunity to refresh and acquire learning;
- to address learning skills in a positive, safe, and convenient setting;
- to be active players in this new environment of learning.

It is a given that if a learning centre is going to be successful it must always mirror the needs of its learners. To insure that the initiative stayed on course, REAL crafted and committed to a philosophy for the Centre. This philosophy states that "The Learning Centre provides opportunities for individual development through the facilitation of learning and education in a positive environment." (REAL Committee, October 1998). The committee also believed that the Centre needed to be employee driven. To meet this goal:

- TLC offers **only** courses suggested by employees and the registration and attendance of learners is strictly confidential. The Coordinator of the Centre is an employee of the Open Learning Agency and therefore neither union nor management at Teck Cominco. Students' records belong to the Open Learning Agency.
- The learners attend on their own time, but Teck Cominco pays for all courses and does not charge back to the participants.
- The Coordinator schedules around the 15 different working shifts of Teck Cominco, which operates 24 hours a day, 7 days a week. In this way, it identifies the strongest barrier identified by the learners which is shift work.

Operating the Centre with these guiding principles has been met with enthusiasm by both the employees and the employer. In 36 months, 42% or 758 learners have completed over 2300 learning experiences in the Centre. However, there has been one very persistent issue: some learners sign up for courses and then do not attend. There has been speculation that learners do this because the courses are free; however, the trainers — who run courses with paid time— have also expressed this same frustration. Other hunches to explain non attendance seemed to include fatigue, disinterest, or low morale. But these were undocumented and therefore difficult to understand. As much as most learners do attend their classes, for sessions with small numbers non attendance can significantly impact the effectiveness of the learning experience.

This situation caused me to ask a number of questions. Why do some learners

always attend? What is it that they are doing that facilitates their attendance? How do learners arrange to attend to other commitments? After learning about action research and how I might be able to change the situation through it's methodology, I identified a research question for this project:

> *What new process at TLC would help learners attend the non-credit (leisure or personal development) courses for which they have signed up in an earlier registration*

Understanding the Situation

Data Collection Methods

What seemed to me fundamental to the problem was that there were some very convenient and plausible answers that could serve as easy explanations as to why some learners did not attend classes. For example, Committee members and other workplace colleagues would exclaim that the weather was improving and folks had begun golfing or skiing or whatever fit in their definition of improved weather. Others cited that the average age of the learners which is 48 was a possible reason — "folks are just too tired". While yet others mentioned that an elite hockey tournament, curling bonspiel, baseball series or local event might be competing reasons for non attendance. But nothing was grounded in any kind of research. So I began to think through how I could use my different job responsibilities to help me capture the new information.

First, I did a review of literature about adult learning and attendance. I found several articles that helped affirm my experiences with learners at TLC. I also familiarized myself with examples of action research methodology to help me identify the best data sources.

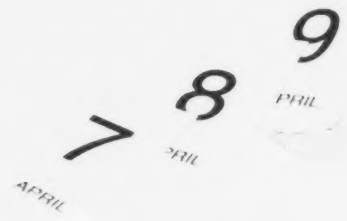
Then, I began to track the weather and known events that coincided with classes at TLC. I entered this information into my Lotus notes calendar for every business day for a month. I had a small surge of confidence when the Centre had full classes on the dates of two important professional hockey games when the weather also happened to be perfect. Tracking this information for four weeks proved valuable.

Another data source was my learner database. I was able to generate a report that indicates the number of courses that learners have signed up for and attended. This allowed me to track both the "super attenders" (learners who sign up for and consistently attend many classes), the "super non-attenders" (those who sign up for many and attend few classes) and everyone in between. Using this

information, I interviewed 10 "super attenders" and 10 "super non-attenders" to find out their reasons for participation or non participation in classes. These informal interviews were not more than 5 minutes, and the same questions were used for each interviewee. I recorded all the answers on the separate chat sheets.

Next, I sent a memo to the 57 "Champions" who are TLC supporters in every plant and office on site. I asked them questions about the effectiveness of my communications to them and to all my customers. All of their replies were printed and kept with my growing file of information.

Finally, I interviewed my governing body, the REAL Committee. Since every member of the Committee must take one course each year at TLC, they are acutely aware of the administration of the Centre and are customers at the same time. I asked them about their experiences regarding attendance and any reasons they may have for not attending. Minutes were recorded from this meeting and used in the analysis.



Making Sense of the Data

With the data folder full, I sorted the information into four emergent categories:

1. Outside Influences
2. Why Learners Attend
3. Why Learners Do Not Attend
4. Learners' Suggestions

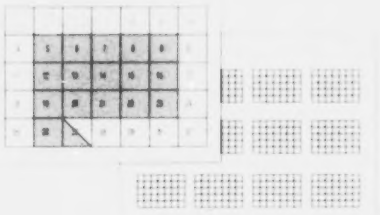
Category 1: Outside Influences

Upon examining the information that was sorted into the first category which was based on the weather and events chart and reviewing the reasons that learners do not attend, it became apparent that enticing weather (as defined by individuals) did not play a decisive role in attendance of classes. This certainly was exemplified by two evenings when Stanley Cup Semi-Final and Final games occurred accompanied by very pleasant weather, a "Men's Nights" at the local golf course and perfect attendance nights at TLC. So although that explanation was plausible and convenient (what could I do about that!), it turned out to be a non-starter. Weather and other events were not keeping my learners away in significant numbers.

Category 2: Why Learners Attend

Learners attend for many reasons and the key seems to be effective prompts before the class. Learners who are successful attenders describe themselves as organized and have tools to support this characteristic such as master activity calendars at

home, daytimers at work and e-mail systems. For example, these learners receive and read the weekly prompts that are sent out reminding them of upcoming courses. They quickly integrate the dates into their calendars and schedule their own notification prompts. As well, those who do not use the computer but have effective prompting systems like a master calendar at home also have a strong record of attendance. It seems that when learners sign up for one to three courses, they have a better chance of attending than do those who register for four or more. Learners who attend also like early notification of their up and coming course dates.



Category 3: Why Learners Do Not Attend

Learners provided two key reasons for not attending courses for which they have registered. Many learners noted on-going, age-related fatigue and forgetfulness as a key factor. The second major reason was extensive family commitments. Evening courses run from 6:30 p.m. to 9:30 p.m. and the non-attenders frequently reported that if they were not at TLC, they would probably be in bed by 9 p.m. The average age for an employee is 48 years. As well, many learners said that they just forgot to attend and that the notification for the courses occurred too early for them to remember. Many of these same learners commented that they did not have access to and/or could not operate an e-mail system and therefore did not receive e-mail prompts. Often learners mentioned that very busy family commitments kept them from signing up for courses. According to the learners such family activities take priority in the evening.

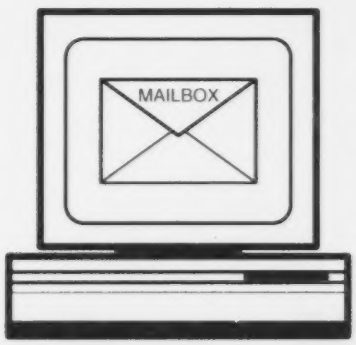
Category 4: Learners' Suggestions

In almost every interview respondents provided very helpful suggestions about how to improve scheduling at the Centre. The "super attenders" consistently mentioned that they really liked the e-mail prompts. Many made suggestions about alternative start times. The "super non-attenders" also recommended additional prompts such as hard copies of notice reminders, e-mails and phone calls. These learners preferred earlier start times. Learners from both groups also asked about babysitting services. Responses from the "Champions" recommended experimenting with earlier start times and posting reviews of the courses on the Company's Intranet. The REAL Committee also endorsed the piloting of a new time schedule, specifically with a 4:10 p.m. starting time for a 1.5 hour class. Two of these classes would then

replace one 3 hour class. They also agreed that a web site on the Company's Intranet would help facilitate better communication between TLC and its learners.

Developing Action Strategies

After reviewing the data I had collected, several easy-to-implement action strategies emerged. The first strategy was enhancing TLC's communication system. I will continue with the weekly e-mail reminders and for those who do not have email, a phone



message. As a handy coincidence, Teck Cominco has promoted information technology training so that 90% of active employees have access to the company's e-mail system; this percentage continues to grow. The completed web site now features a section where learners review courses and make suggestions for improvements. I have submitted short articles to the Employee News Network to remind learners of upcoming courses as well as blanket e-mails when space is available in a particular course. Further, a section has been added to the Winter 2002 course offering, recommending that learners sign up for a maximum of 3 courses. A note to all the "Champions" asking that they pass this idea along to learners has also been sent.

The second action strategy was to review alternative start times. In the Fall 2001 course offerings, several of the computer courses ran with the option of having a 4:10 p.m. start time. Some learners expressed interest in this, and when those learners were in the majority, the class started at the new time. Learners evaluate every course at TLC, and an additional question about the new start time was added to the evaluations for the piloted courses. Still many learners on their days off like the 6:30 p.m. and the 8:30 a.m. start up times. When the majority of learners indicate a preference for either one of these start times, these classes will be scheduled accordingly.

Monitoring the Results and Reflecting on the Action Research Project

The evaluation of the enhancements to TLC's communication strategies are fairly straightforward. As TLC runs three offerings per year (Winter, Spring, Fall), results from previous years can be compared to see if "sign up to attendance" rates improve. As well, I can seek input about the effectiveness of the website from learners and track the interest by the number of hits obtained. The new website will be advertised on TLC's interest bulletins and on the

Employee News Network, which continues to feature stories about TLC. I have also informed learners that they should register for a maximum of three courses. This was done through articles, notes on the interest bulletins, and personal exchanges.

As mentionned, an additional question has been added to the course evaluations for the 4:10 p.m. time slot and I have been keeping a running record of how learners rate this new starting time. Presently, this new time has also allowed for scheduling courses on a new day for TLC. Previously, learners had made it very clear that they would not be attending Friday evening courses (6:30 p.m. to 9:30 p.m.). However, when polled, learners who had indicated an interest in the new start time had no objection to attending courses on Friday from 4:10 p.m. to 5:40 p.m.

The initial results of these changes have been exciting and rewarding. The action research project has shown me how to abandon the easy excuses for non-attendance and really focus on what is happening with the learners. The process has given me the tools I will need to start answering whatever nagging questions I encounter in the natural evolution of the Centre. I believe this optimism is grounded in the initial results I have gathered. I have gained not only a new scheduling day, Friday, but also, as a result of the 4:10 p.m. start, learners have indicated that they are open to coming into class before a night shift. This was never an option before and literally opens up the entire scheduling week. As well, I have gained new avenues of communication with my learners —my customers— and this allows me to be more responsive to their changing working environment. The action research experience has empowered the people in the Centre by enabling us to look closely at the most frequently cited barrier to on-going learning for the employees of Teck Cominco — accessibility. Now, when our learners are all signed up, they'll have someplace to go, and we'll know how and why they got there!

About the Author

Jane Power is the Coordinator of The Learning Centre at Teck Cominco Metals Ltd.'s Trail Operations and has been in the delivery of adult education in both the private and public sectors for 20 years.

Action Research Case 7

Improving Content Delivery for the Older Learner

The Workplace Context

Crossley Carpet Mills Limited is a carpet manufacturing business based in Truro, Nova Scotia. Crossley can trace its beginnings to England, where John Crossley & Sons produced the first broadloom carpet on a power loom. Founded in 1803, the company has grown to become a world-renowned carpet manufacturer, and successive generations of the Crossley family have continued to be part of the industry. Crossley's 20-year partnership with Karastan Rug Mills of the United States blended the carpeting skills of two of the leading manufacturers in the world. In 1999 Collins and Aikman Floorings from Georgia, United States, purchased Crossley Carpets.

Today Crossley Carpet Mills Limited remains one of the few North American mills committed to manufacturing high quality woven and tufted carpets. Crossley has a state-of-the-art mill, which is fully integrated with its in house yarn production, dyeing, weaving, and tufting. The company takes pride in employing environmental sound practices, and being the first carpet mill in Canada to be registered ISO 9002. It is also one of largest employers in the town of Truro. This action research project is centred on the workplace upgrading program that is offered to the employees of Crossley Carpet Mills Limited and their family members. Recent participants in this program have been from an older population, which became the foundation for this project research.

Finding a Starting Point

In 1996 Crossley Carpet Mills Limited decided that there was a need for employees to upgrade their education to at least a grade 12 equivalency. Since most of the current workers at Crossley have been employed with the company for 25 to 30 years, many with grades six and seven, the workplace skills education program was started in the spring of 1996. As Truro has

a large unemployment rate and lack of jobs. Crossley had their pick of employees from the current job market. Therefore, many of the new employees being hired by the company had at least a grade 12 education — many also had university. This left a sizeable group of older employees at the company at a disadvantage. The younger more educated employees were more able to obtain promotions while the older employees had more difficulty in succeeding at the mandatory math test needed to move upward into some of the higher positions. Crossley and the employees' union decided that something needed to be done to allow this target group to advance within the company.

As a result, an Educational Board was formed with membership from management, office personnel, union representatives, plant employees, and educational representatives from the Nova Scotia Department of Education. After considering the advantages of developing in-house training at Crossley, the Educational Skills Training program was launched. At the outset of the program, participants were the younger employees of the plant. Having a designated 40 week program completion time seemed to suit their needs in acquiring the skills that the company deemed necessary — passing the General Educational Development (GED). However, as the program continued, the more senior employees wanted to participate as they witnessed the recent program graduates move into other types of positions. It soon became clear to the instructor, the employer, and the participants that the restriction of a time limited program hindered older individuals in their ability to learn. These individuals could not gain or retain the content necessary for acquiring a Grade 12 equivalency in the same way as the younger participants. Program restructuring became necessary in the area of content delivery. With this history in mind, action research planning provided the most appropriate way to investigate the following research question:

> *What content delivery changes should be made in a program for older learners*

Understanding the Situation

Data Collection Methods

After reflecting on the root of the problem, four methods of data collection were chosen to answer the research question. The first method of data collection concentrated on gathering existing evidence from written and unwritten materials. A portfolio of readings associated with geriatrics and learning

and retention characteristics of older learners was developed with key concepts. These were put on index cards for later analysis. Information concerning my own knowledge base on older adult learners drawn from classroom experience was put into a logbook and later indexed. Students also completed weekly journals for a period of eight weeks recording their likes and dislikes concerning the delivery of a particular topic and suggestions for delivery improvement. This information was then transferred to index cards for sorting purposes.

The second method of data gathering involved observing and documenting classroom presentations. Field notes were taken after each class with a focus on content delivery methods and the various effects. These notes were later compared with students' journal entries for the same class. Notes were also taken from an open classroom discussion concerning past learning experiences and what individuals felt were their most pressing learning needs. Although there were some variations in the articulated learning needs, patterns began to emerge.

Interviews comprised the third method of data collection. Semi-structured interviews with open-ended questions were conducted with the Human Resources Officer, and the CEO of Crossley to learn what their beliefs were concerning older learner participation and their ideas about content delivery for older program participants. The data gathered from these interviews were then recorded in written notes and later compiled onto index cards for clarification and further categorizing.

The fourth data collection method consisted of a 12 question survey that was administrated to 10 older participants who had previously attended the program. These questions focused on their assessment of past content delivery, and their ideas for delivery improvement which addressed the participant's learning needs. This information was then compiled, indexed and separated into the various categories under recurring themes.

Making Sense of the Data

Using the constructive method of analysis, several basic steps were followed: reading data, selecting data, presenting data, interpreting, and drawing conclusions. The four data sources provided three clear categories of information, which were examined closely over a 10 day period. This allowed for further synthesis and analysis of the most relevant aspects of the data. After sorting into groupings, the following categories were determined:

Category 1 – What are the students saying?

Category 2 – What is management's position?

Category 3 – What are the instructional needs?

Data was then further selected, sorted, and indexed to represent the major themes and concepts. This step led to developing the categories with recurring themes in each.

What are the Students saying?

Four patterns emerged under this categor, and were grouped under one heading: "Are they listening?" Participants preferred a less time oriented teaching environment that allowed them to be active in establishing course objectives and goals pertaining to their learning needs at the outset of the program. They also appreciated receiving positive constructive feedback that involved process rather than correctness and they liked instructional methods that used the following learning tools:

- handouts;
- hands-on demonstrations;
- demonstrations done by the instructor;
- instruction expressing relevance;
- instructional cues for information retrieval;
- summarization of key concepts learned;
- classroom discussions.

All participants found that self-esteem and prior learning experiences greatly affected their learning curve early in the program. As they became more comfortable with the instructional methods this self-esteem increased.

What is Management's Position?

Two themes evolved from this grouping: "Self-Esteem Matters?" and "Time is Irrelevant" This category was based on management's perception of the program's success. Management agreed that the restrictive time element had to be addressed. They believed that the participants and their learning needs should determine the course time line rather than the company's desire for program completion. Management also agreed that the element of self-esteem enhancement which resulted from the program was a definite asset to the company and its training culture. They were also very aware of how some employees, who had held the same positions for 20 years, were now changing jobs within the plant after having completed the program. These employees were now viewed in a more positive way and seen as productive individuals with a better self-perception of their skill level and the world around them.

The needs of the instructor — what are they?

The main theme that emerged from the data in this grouping was: "Am I On Line." As an instructor of older learners, it is paramount to be aware of the diversity in learning abilities, needs, strengths, weaknesses, as well as, their physical well being — sight, hearing and movement impairments. This is important so that teaching can be adapted. The readings, prior knowledge, and the data provided most of the background information in this category. Development of self-esteem was viewed as crucial and should be reinforced and assessed constantly throughout the program. The instructor should also address all older learners' fears and apprehensions. As well, an instructor needs to be aware of the immediate context so as to develop an age appropriate curriculum that is transferable to the everyday life of the older learner. This needs to be done in a positive, constructive learning environment.

Developing Action Strategies

Conclusions drawn from the final phase of the data analysis led to the consideration of four action strategies. The first option was to offer the program in the same format as in previous years, making no changes to the teaching methods, time elements, or learning environment. A second action strategy option was to create a less time-oriented program, but to keep the content delivery, learning environment, and teaching methods the same. The third option was to consider keeping the same time element, but changing the content delivery, learning environment, and teaching methods. The fourth strategy involved changing the time element, the content delivery, and teaching methods, while keeping the learning environment the same. After presenting these options to the new participants, it became very clear that the fourth action strategy was the most favourable to all learners.

Adapting content delivery changes for older learners

The delivery system selected for this program included several components and encompassed techniques that focussed on older learners' abilities and needs. A modular approach provided participants with activities and immediate positive reinforcement that encouraged them to try new things. Instructional methods incorporated such learning tools as: handouts, hands-on demonstrations combined with instructor led demonstrations, instruction expressing relevance to the learners needs or workplace,

instructional cues for easy information retrieval, flipcharts, summarization, and group discussions. The time element became less important since the self-paced learning approach provided participants with plenty of time to learn the new skills. This learning environment was more responsive to the needs of the learner than the previous design of the program. As a means of validation, a former learner from the program participated in the new program for eight weeks to provide feedback on the changes made to the delivery of content.

Prior to the new course start up, an assessment was conducted of the participants' needs, goals and prior learning experiences, educational backgrounds, and desired outcomes. The instructor used this information to make the necessary adjustments to the delivery of the content. Participants then began the program which was monitored over eight weeks with built in feedback opportunities. Within each session course delivery methods evolved giving attention to the expressed needs of the learners. It was noted that participants were more eager to ask for extra help or extra work in an area of difficulty. This aspect was very different from the other previously taught programs. The learner who sat in the new program also expressed great enthusiasm concerning the changes to the program and content delivery methods now being used.

Monitoring the Results and Reflecting on the Action Research Project

The three approaches used in monitoring the results of the action strategy were group discussions, the instructor logbook, and the feedback from the former learner. After the first eight weeks of the program were completed, and the assignments graded, the instructor asked the participants to evaluate their learning experience and the aspects of change made to the delivery of content. This was further complemented by the written evaluation provided by the participant who had previously taken the program. The monitoring exercise indicated that the content delivery of the program should be adapted and changed as the needs of the participants change. Overall, the participants felt that the instructor had addressed the needs and goals of the learners on a consistent basis which effected their progress.

Another result of the monitoring exercise was that the participants needed and relied on immediate feedback from their assignments. This kind of reinforcement

encouraged them to risk moving onto new tasks. It also required the instructor to provide constant summarization and immediate correction of all assigned tasks so that participants would not become frustrated or loose interest in the content. Although this took a great deal of time on the part of the instructor, student risk taking behaviours increased.

Several observations and conclusions can be made in reflection on this project. When teaching older learners, a slower speed in delivery is necessary. The instructor should make the delivery of content less tied to elements of time, and be aware that past learning experiences can and do inhibit learning ability. As well, older individuals need to have continual support and reinforcement after learning a new task, so that they will be more confident in their risk taking behaviours. Also, the instructor should use teaching techniques that focus on the needs and abilities of older learners'.

By using a wide variety of learning tools such as handouts, hands-on demonstration, instruction expressing relevance, instructional clues for information retrieval, and discussions, different learning styles can be accommodated providing a more rounded classroom environment for the older learner.

Challenges exist for the instructor and designer of a modular approach for older learners as increased preparation time is necessary. Instructor and participant interaction also needs to be constant so that there is continued learner involvement. As much as the instructor's ability to reassess and adapt to participants' needs is very demanding; it is an ongoing process. Being flexibile and adaptative then become the key characteristics of a good instructor.

About the Author

Olwyn Gehue is an instructor at Crossley Carpets in their workplace education program and has taught and developed curriculum in adult education at community colleges, and community-based learning programs for 16 years.

Action Research Case 8

Motivating Adult Learners

The Workplace Context

The Key Lake Operation is one of CAMECO's northern Saskatchewan mining and milling sites which has been in operation for 20 years. However, as the ore depleted a number of years ago, the mill underwent adjustments to process a much higher grade ore from another mine site 78 kilometers on an all weather road.

Over the years the mining industry has become more technically advanced and employees are faced with new machinery and techniques. Recognizing the need to foster a culture of lifelong learning in the workplace for a workforce with an average age of 41 and "rusty" grade levels in a number of academic subjects, CAMECO realized that the issue of academic upgrading had to be addressed. Worth noting here is that 50% of the employees are residents of Saskatchewan's north who didn't have access to advanced education in many cases, and whose second language is English.

CAMECO, in partnership with Northlands College and the Mineral Sector Steering Committee has been providing an academic learning centre at two of the mine sites for the past six years to enhance their many in-house training programs. The Learning Centre is open to all employees, and the company matches one hour for one hour of employee time spent at the Centre. Also, the company reimburses employees who take advanced, community college or university classes if the learner is successful. This action research project is situated in the context of the Learning Centre.

Finding a Starting Point

The employees are flown into this remote mine site, where they work a one week in and one week out schedule. The instructor works a two week in and two week out schedule in order to be able to meet with both groups of employees. The Learning Centre is complete with computer assisted learning technology, which helps

the instructor assign homework for the week that she is on site. After all, these volunteer learners are virtually a captive audience and given this opportunity to prepare for advancement, it was assumed that the motivation to learn was ever present. It was — while the instructor was on site. In fact, as the instructor prepared to leave the mine site at the end of the two week shift the participants were always excited and optimistic about all that was going to be accomplished before the next meeting. Each time, however, that the instructor returned she was greeted with looks of guilt on the faces of the participants and little evidence that the Learning Centre had been used to any great extent. It seemed that the motivation of the learners had wavered while the instructor was not on site. Moreover, many of the learners forgot how to do the assignments even though they had gone over a number of examples while the instructor was on site.

Trying to rekindle this motivation each month was becoming frustrating to say the least. Therefore, after a year of considering various solutions to the problem, the introduction to action research techniques proved to be a good way to find answers to the following question:

> *How can the Learning Centre provide a more continuous learning experience for the participants?*

Developing an Action Strategy

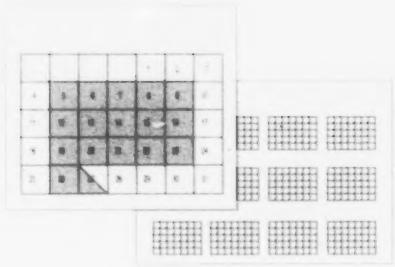
The company had implemented an irregular flight schedule for some of the management team that was essentially a Monday to Friday routine. Therefore, the possibility of changing the instructor's work time to a similar type of schedule seemed to be an avenue to address the loss of motivation of the learners while the instructor was away for two weeks. It would have the effect that the instructor was on site more of the time, thus increasing learner motivation. As a result, an arrangement was made to have the instructor's schedule changed to accommodate a more pervasive presence on site. This meant that the instructor would still spend at least two weekends per month on site, as the weekends are a very productive time at the Learning Centre. Since the objective of the action strategy was to ensure that the learners were provided with as much time with the instructor as possible, this appeared to be the best proactive approach to the concern.

It seemed appropriate that action research methodology was a tangible way to monitor the results of this change. Therefore, it was used as a way to determine whether the instructor's presence was a factor in the learners' motivation. Since the research methodology presupposes different ways of data collection, three forms of collection were selected and this was followed by an indepth analysis. First, the tracking of attendance and assignments was done. Secondly, a log was kept of student comments about the new instructor schedule and thirdly, a diary of the individual interviews was recorded.

Data Collection Methods

For the first method of data collection attendance records were kept as well as the number of assignments completed and submitted. This served as a second objective source of data. Also, learners who had participated in the program for the equivalent period preceding the study were chosen to help track any changes. In this way, any changes could be noted and compared accurately.

A log of the comments made by participants during the schedule change was kept, and interviews with a number of the more independent learners were conducted after the six month study period. These university and community college distant education students were chosen because, by and large, these employees have independent learning styles. It was felt that their interview data would provide a particular focus on the issue of loss of learner motivation during the instructor's absence from the mine site. The questions for the interview schedule were constructed to bring out the learners' responses to the instructor's new schedule.



Making Sense of the Data

Using the constructive method of analysis, two major steps were followed: reading the data several times and interpreting and drawing conclusions. Analyzing the data sources on attendance and number of assignments was straightforward. However, the log entries and the interview data were somewhat harder to analyze. The results of this study indicated that the change of the instructor's schedule had a positive effect on the program. Just as important were the many insights to be drawn from the conclusions.

The data sources related to attendance and submitted assignments increased by 15%. This is significant considering the study was done over the summer months when employees were on vacation and fishing on the surrounding northern lakes during their leisure time.

Interpreting the log data was revealing. In the past, the instructor had at least four weeks off during the summer and the learners had accepted that as normal for a teacher. However, after only taking 17 days off during the study period, comments such as, "Where were you?" and "It seemed like you were gone forever." were recorded eight times during the first week. In addition, one of the employees commented that it seemed as though the instructor had been on site for an unusually long period of time.

Data from the interviews indicated that the participants preferred the instructor to be on site for support even though some of them were very self-directed. They also believed that access to the Learning Centre was easier when the instructor was on site.

Based on the different data sources, two main themes can be summarized. They were:

Category 1 – Learners' needs.

Category 2 – Instructor's needs.

Learners' Needs

The learners are employees who wish to improve their basic mathematics and reading skills in order to gain promotions or enter apprenticeship training. This became an important bridge to further program changes. As well, there are others who are preparing to write the GED examinations or participating in distance education programs delivered by universities and community colleges. Although this group doesn't require content instruction, they often need

assistance with study skills, research, and assignment formatting and proofreading. All learners clearly indicated that after working a 12 hour shift, it is very tempting to just stay in their rooms and watch TV or sleep. The instructor's presence on site added to the motivation of the learners because they needed to feel confident that their study activities were being monitored and supported.

Instructor's Needs

This concern about the motivation of the learners after the instructor had been off site for two weeks had become an area of extreme anxiety. Therefore, options for addressing this concern had been an issue for the instructor for approximately two years. It was obvious that something had to be done about the learner's motivation and how they viewed the continuity in their learning process.

Reflections on the Study

The strategy of changing the instructor's schedule from two weeks in and two weeks out to an irregular schedule was an important program improvement. By changing the hours of operation at the Learning Centre the instructor was more visible to a greater number of employees. As well as the learners seeing the benefit of the action strategy, this additional visibility also became evident to management. They recognized the potential to address their concerns about the apprenticeship training for which they are committed. The program partners as well as the supporting literature and the national experience with the lack of journeyman graduates is an universal concern. As a result of the change in the operation of the Centre this is now being addressed by including ability and aptitude testing on site. These services give the candidates the opportunity to upgrade and refresh their skills especially in mathematics and reading comprehension. Then they can come to the Learning Centre to improve their skills and re-write the appropriate tests at a later date. This way they are better equipped to be successful at the academic portion of their training. This type of process puts them into a better position to compete for the more advanced jobs. Historically, the academic portion of the apprenticeship program has been the downfall. Therefore, the company wants to ensure that the applicants have every possible advantage of succeeding. The on site Learning Centre is one way the company is assisting the employees to gain journeyman status. Furthermore, there will be a bank of employees prepared to enter apprenticeship programs as the need arises in the future.

This is, undoubtedly, a unique learning situation. The lesson learned from this action research is that learners, no matter how independent they are, need to feel that their endeavors are being monitored and supported. It is also evident that instructors of workplace education programs should be aware and prepared to look at the larger picture of their programs in order to see how the apparently small changes can help pave the way for other changes in creating a learning culture inside a company.

About the Author

Vivian H. Phelps instructs at a provincial and federal award winning workplace education program at a CAMECO mine site in northern Saskatchewan. She has worked in the field of adult education for 17 years.

PART 3

ACTION RESEARCH

EXERCISES

AND

ANNOTATED BIBLIOGRAPHY

EXERCISE 1

Finding a Starting Point

One step towards finding a starting point for your action research project could be individual brainstorming:

1. Think of your own practical experience as a workplace instructor.
   - Is there any question which you have been wanting to investigate for a long time already?
   - Which of your strengths would you like to develop?
   - Are there any aspects of your work which you find puzzling and which have already been a focus for your reflection?
   - Are there any situations which cause difficulties and which you would like to cope with more effectively?

   Let your thoughts flow freely and write down your first spontaneous associations in the form of catchwords. You might like to use your journal to record these. Don't spend more than 6-8 minutes!

2. Once you have recorded your initial ideas, you may be able to stimulate further ideas for starting points by using these incomplete sentences.
   - I would like to improve the.....
   - I am perplexed by.....
   - If I..... I am completely worn out afterwards.
   - Again and again I get angry about.....
   - I have an idea I would like to try out.

3. Now choose your strongest starting point and use these questions to identify the most important characteristics:
   - What happens in this situation?
   - Who does what?
   - Which contextual factors are especially important in understanding this situation?

EXERCISE 2

Developing a Starting Point

1. Look at the starting points that you have formulated so far and write brief notes to record the (+)'s and (-)'s of adopting it as your main research focus.

(a) *Scope for action*

	YES	NO
• Does the situation come from my own field of experience?	❑	❑
• Can I really do something about this?	❑	❑
• Do I have any possibility of influencing this situation and/or taking action?	❑	❑
• Or am I too dependent on other people and institutional structures?	❑	❑
• Would an improvement in this situation depend primarily on changing the behaviour of other people?	❑	❑

(b) *Relevance*

	YES	NO
• How important is this situation to me and to my professional concerns?	❑	❑
• Is this issue worth the effort in an educational or training sense — is it concerned with important educational or training values?	❑	❑
• Is it likely that this situation will still interest me in a few weeks' time?	❑	❑
• Am I willing to invest a certain amount of energy in dealing with this situation?	❑	❑
• Am I interested in this situation in order to change and improve something?	❑	❑

(c) *Manageability*

	YES	NO
• Do I have the time to cope with this?	❑	❑
• Are there too many preparatory or related tasks to be coped with before I can start this project?	❑	❑
• Will it make too many demands of me?	❑	❑
• Is the question 'too big'?	❑	❑
• Can I build on successes, even if they are small, in working with this question?	❑	❑

(d) *Compatibility*

	YES	NO
• How compatible would this question be with the rest of my activities if I select it as my research focus?	❑	❑
• Would it involve things that I have to do anyway?	❑	❑
• How well does this intended research fit in with my planning?	❑	❑
• Would it be possible to build some research activities directly into my present work responsibilities?	❑	❑

EXERCISE 3

A Method for Recording Observations

When and how should notes be made?

- The best method to follow is to jot down a few key words or phrases bringing to mind certain events.
- These can be summarized in detail soon after the observation.
- The best time for recording is undoubtedly right after the time the observation is made.
- This is a process of describing the various characteristics of the situation in a form representing how it occurs.
- The goal is to provide a series of notes which act as a "sketch" for the later "pictorial" description of the setting.
- The process of recording seeks to develop the initial sketch of notes into an actual picture of the system.
- This is a "back-and-forth" process of developing an initial description, comparing it again with a second observation or the observations of others, and then finalizing the description.
- The observation becomes more focussed and the categories for description can be revised in later stages of the observation.
- The act of recording is often lost in too sketchy a picture or too detailed a sketch.
- The best recording principle suggests that we should be detailed enough to communicate the system to another person while not so sketchy as it would require constant verbal editorializing by the observer.

Exercise 4

Basic Skills in Interviewing

Describe some of the skills in interviewing that you have used. Then read over the suggested tips to see if you have forgotten any.

Suggestions

1. Listening does not involve absorbing and understanding so intensely that one's internal frame of reference has difficulty being separated from the interviewee.
2. One of the tests of listening is being able to restate in one's own words what the interviewee has said.
3. If the person accepts this, there's an excellent chance that the interviewer has listened and understood the messages.
4. A reflective summary is a way of summing up the feelings another person has expressed.
5. The interviewing process relies on the proper use of pauses.
6. The interviewer should not be afraid to allow a pause to persist.
7. The respect for silence is a key skill to enhance the process of interviewing.
8. Silence may occur for various reasons.
9. The interviewee may require time for thinking.
10. Confusion can create silence either because of the issues dealt with or because of the interviewer's probes.
11. Silence may also occur due to the interviewee's uncertainty of the interviewer's expectations.

Exercise 5

Checking Action Strategies

Deciding on an action strategy is a very individual process tailored to the specific circumstances of a situation.

Usefulness

- How useful is this action strategy? _____
- Will it solve the problem? For how long? _____
- Might there be any additional positive effects? _____
- Might there be any negative side effects? _____

Practicality

- How practical and feasible is this action strategy? _____
- What room for manoeuvre will there be when implementing this strategy? _____
- Can this be done alone or does it require the goodwill, support and co-operation of others? _____

Acceptability

- Will this action strategy be acceptable to the instructor, students and others concerned? _____

Exercise 6

Action Research Summary Plan

Research Question

Context of the Problem

Data Gathering Tools

- Existing Evidence (written, unwritten)

- Observing & Documenting Situations

- Interviews

EXERCISE 6 – Action research summary plan (cont'd)

- Questionnaires

- Estimated Time Frames:

Data Analysis

Constructive Method of Analysis

- Read Data

- Select Data

- Present Data

Draw Conclusions

Estimated Time Frames:

Anticipated Action Strategy, Implementation & Evaluation

Estimated Time Frames:

A Selected Bibliography on Action Research

Altrichter, H., Posch, P., & Somekh, B. (1993). *Teachers investigate their work: An introduction to the methods of action research*. London, UK: Routledge.

Argyris, C., & Schön, D. (1974). *Theory in practice: Increasing professional effectiveness*. San Francisco, CA: Jossey-Bass.

Elliott, J. (1991). *Action research for educational change*. Buckingham, UK.: Open University Press.

Greenwood, D. & Levin, M. (1998). *Introduction to action research: Social research for social change*. Thousand Oaks, CA: Sage.

Group for Collaborative Inquiry (1993). The democratization of knowledge. *Adult Education Quarterly*, 44, 43-51.

Hart, E., & Bond, M. (1995). *Action research for health and social care: A guide to practice*. Buckingham, UK: Open University Press.

Heron, J. (1996). *Co-operative inquiry: Research into the human condition*. London, UK: Sage.

Kuhne, G., & Quigley, A. (1997). Understanding and using action research in practice settings. In A. Quigley & G. Kuhne (Eds.), *Creating practical knowledge through action research: Posing problems, solving problems, and improving daily practice*. San Francisco, CA: Jossey-Bass.

Mezirow, J. (1990). *Fostering critical reflection in adulthood: A guide to transformative and emancipatory learning*. San Francisco, CA: Jossey-Bass.

Mumfrod, A. (1989). *Management development: Strategies for action*. London: Institute of Personnel Management.

Reason, P. (Ed.). (1988). *Human inquiry in action: Developments in new paradigm research*. London, UK: Sage.

Reason, P. (Ed.). (1995). *Participation in human*. London, UK: Sage.

Reason, P., & Bradbury, H. (2001). *Handbook of action research: Participative inquiry and practice*. London, UK: Sage.

Revans, R. W. (1980). *Action learning : New techniques for management*. London, UK: Blond and Briggs.

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Zuber-Skerritt, O. (1992). *Action research in higher education*. London, UK: Kogan Page.

Zuber-Skerritt, O. (1992). *Professional development in higher education*. London, UK: Kogan Page.

Internet Resources

http://carbon.cudenver.edu/~mryder/itc/act_res.html>

http://www.scu.edu.au/schools/gcm/ar/ari/arihome.html>

http://www.triangle.co.uk/ear/index.htm>

http://www.ed.gov/databases/ERIC_Digests/ed355205.html>

An Annotated Bibliography on Action Research

Altrichter, H., Posch, P., & Somekh, B. (1993). *Teachers investigate their work: An introduction to the methods of action research*. London, UK: Routledge.

This is an excellent methods book for teachers who want to conduct research into their own practice. The authors hope that the book will inspire teachers to take control of the development of schools and help them resolve their professional problems. Action research (AR) is promoted as way for teachers to share their professional experiences and raise awareness regarding the professional thinking that informs their practice. The book is also an excellent reference for researchers in other fields. The chapters are organized according to the phases of the AR process. These include details concerning starting a project, maintaining a journal, clarifying the issue, collecting and analyzing data, developing action strategies, and sharing teacher knowledge. The final chapter looks at the theoretical foundations of AR. Of particular interest are the 40 concise summaries of strategies and methods that are provided throughout the book. These are suggested as useful handouts for courses or projects.

Argyris, C., & Schön, D. (1974). *Theory in practice: Increasing professional effectiveness*. San Francisco, CA:, Jossey-Bass.

A classic, this book is about explaining human action particularly in the social contexts such as organizations. The authors focus not only on action but how to create action, or rare events, by intervention. Part One lays out the genesis of the authors' ideas about theories of action and theories-in-use. Part Two discusses the specific theories-in-use that affect ineffective and effective interpersonal and professional behaviour. The last part explores the strategies and environments that are most likely to engender successful interventions.

Elliott, J. (1991). *Action research for educational change*. Buckingham, UK: Open University Press.

Teacher professional development through action research is the topic of this book. It begins with a look at action research as it emerged, in Britain, in the context of school intitiated change of the 1960's and proceeds to examine the methodological issues relating to the use of action research for professional learning in schools. The author has extensive experience as an academic working to facilitate and promote the teachers-as-researchers movement in the UK. In addition to presenting case studies of his work, Elliott identifies some of the tensions he has experienced between the cultures of teachers and teacher educators in academe. He also explains how government policy is deprofessionalizing the role of the teacher and eroding the traditional culture of teaching as a craft. One chapter serves as a practical guide to action research but the series editor remarks in the introduction that the author, having used this guide with teachers, advises that it should be used a as guide to test against experience rather than a prescription. The final chapters look at

three policy contexts, the national curriculum, teacher appraisal, and competence-based teacher training, within which future action research must be forged.

Greenwood, D. J., & Levin, M. (1998). *Introduction to Action Research: Social research for social change. Thousand Oaks*, CA: Sage.

This recent and comprehensive text is clear and compelling. It provides readers with an overview of the different approaches to action research (AR). The book begins with a history of AR and two cases. This is followed by the methodological and philosophical tenets of AR. Four cases from the authors own practice are included in this section. Finally there is a series of chapters on the various different approaches to AR.

Group for Collaborative Inquiry (1993). "The democratization of knowledge". *Adult Education Quarterly*, 44, 43-51.

The authors of this essay raise the point that conducting research engenders attitudes and behaviours that are in conflict with the ideology of collaborative research, in which, a commitment to democracy is considered fundamental. This group of researchers recount their experience of realizing that their own production of knowledge was constrained by the larger cultural milieu of academia. Despite the authors holding values espousing empowerment, inclusion and liberation, they became aware of their tacit assumption that only analytical and objective knowledge were suitable for formal knowledge production. Thus, while adult education academics have concerned themselves with oppressed structures in their field's constituencies, they have paid scant attention to the oppressive structures operating in their own professional culture. The group suggests that there is a need for critical self-reflection among university-based adult educators.

Hart, E., & Bond, M. (1995). *Action research for health and social care: A guide to practice*. Buckingham, UK: Open University Press.

Designed as a text on research methods at the undergraduate and postgraduate levels, this book is also recommended for professional training courses. The authors have structured the book according to what they claim is the driving force behind action research, that is, the interplay of practical wisdom and theoretical concepts. Part One provides an overview of action research in different contexts: in process, which includes an action research typology of four broad traditions and seven criteria; and in practice, where the authors present an action research proposal. In Part Two five case studies are presented. The cases differ in magnitude, issues addressed, and are written from the perspective of various participants. In addition to successful examples there are instances of instructional failure. Next there is a 'toolkit' designed to help researchers thinking through the research process. The final chapter proposes that a project perspective is a way for practitioners and researchers to think of research that combines research and practice.

Heron, J. (1996). *Co-operative inquiry: Research into the human condition*. London, UK: Sage.

In this volume Heron presents a comprehensive guide to co-operative inquiry. Heron sees this approach as

having links to the action research and experiential learning work stemming from Kurt Lewin (1952) but he believes that the source, application, and epistemology of co-operative inquiry make it quite distinct. The chapters cover all aspects of co-operative inquiry from philosophy, methods, to a detailed discussion of validity. Many of the specifics covered in this book have application to other types of action research.

Mezirow, J. (1990). *Fostering critical reflection in adulthood: A guide to transformative and emancipatory learning*. San Francisco, CA: Jossey-Bass.

This book is for educators, counselors, psychologists, advisors, and trainers who are interested in helping adult learners identify the perspectives that shape their experience. It recommends strategies and methods for facilitating transformative learning, which is learning through critical self-reflection resulting in action guided by reformulated meaning perspectives. Authors from the fields of adult education, psychology, psychiatry, sociology, and philosophy, have contributed to the variety of approaches to critical self-study presented. Mezirow's first chapter gives a theoretical framework for understanding how critical reflection allows transformative learning. Three types of limitations that can interfere with these processes are: epistemic limitations, sociocultural distortions, and psychic disorders. Each of these is discussed in greater detail in later chapters. The remainder of the book is divided into three parts. The first describes six programs for identifying and transforming frames of reference. Parts Two and Three present different approaches and procedures to help learners become aware of, critically reflect on, and map their meaning perspectives. In the final chapter, Mezirow pulls together themes from the other contributors to outline the process of emancipatory education to facilitate transformative learning in others.

Mumford, A. (1989). *Management development: Strategies for action*. London, UK: Institute of Personnel Management.

This purpose of this book is to set out the formal aspects of management development in sufficient detail to provide a comprehensive view of the area for managers of all different levels. Both formal and informal processes are covered. The book begins with a discussion of management development models. Of note are the developmental activities suggested for advisors and managers alike. These give firm support to the principle of action learning that states that development begins with individuals taking action. It is not something that is 'done to' you. This notion is referred to as Type 2 learning, involving both 'retrospective learning' (how one has actually learned from past experience) and 'prospective learning' (planning for opportunities to learn in the future).

Quigley, B. A., & Kuhne, G. W. (Eds.). (1997). *Creating practical knowledge through action research: Posing problems, solving problems, and improving daily practice*. San Francisco, CA: Jossey-Bass.

This sourcebook specifically addresses action research (AR) as a process of inquiry and a methodology to challenge traditional ones in adult education. The first chapter looks at the politics and issues affecting AR in adult education.

Chapter Two provides 'how to' information for those wanting to begin an AR project. Case studies are presented in the third chapter. The remaining two chapters invite dialogue on the whole topic of AR and the relationship of research to practice. Only 85 pages, this book is a very useful tool for those people who are teaching or conducting AR.

Reason, P. (Ed.). (1988). *Human inquiry in action: Developments in new paradigm research*. London, UK: Sage.

In 1980 Reason and Rowan co-edited the volume (Human inquiry) that introduced the emerging paradigm of co-operative experiential inquiry. This later volume reports on the model as it has been used in research practice. Several new methodological approaches are covered as are examples of actual research projects form different domains. The research process is discussed in detail as are criteria for validity. This important contribution to the literature is valuable to anyone interested in collaborative research.

Reason, P. (Ed.). (1995). *Participation in human*. London, UK: Sage.

A companion volume to *Human Inquiry in Action: Developments in New Paradigm Research*, this book develops further the participatory world-view upon which co-operative inquiry rests. It attempts to integrate the theory and practice of co-operative inquiry with action inquiry and participatory action research. The first part of the book addresses the Western world-view as it is and then explores participation as an aspect of human consciousness. The practice of human inquiry is proposed as a way to develop a more participatory consciousness. The second part of the book provides examples of participatory research. These cases demonstrate that although it is often difficult, it is possible to do research with people in a truly collaborative manner. The cases involve issues in health care, organization, and learning institutions.

Reason, P., & Bradbury, H. (2001). *Handbook of action research: Participative inquiry and practice*. London, UK: Sage.

This is wide reaching volume of 45 chapters presents the latest developments in social inquiry and participatory practices. The four parts of the book are entitled 'groundings', 'practices', 'exemplars', and 'skills'. Respectively they cover the variety of paradigms and theories behind the different practices of action research, these practices themselves, cases of these approaches, and finally some of the competencies suggested to successfully carry out.

Revans, R. W. (1980). *Action learning : New techniques for management*. London, UK: Blond and Briggs.

Despite being over two decades since publication, this book is valuable for anyone concerned with industry and organization. It is a seminal work that is referred to by later authors in the field. Written by the man who was engaged in 1946, by the then newly established National Coal Board of Britain, to educate the miners in to productivity. The first nine chapters present case studies of action learning, including foreign examples in places like India, Belgium, Nigeria, and Australia. The thesis of action learning is simply that one learns best by doing and thinking about this doing. In the

second part Revan promotes small as the optimal size for a working unit. This, at the time, was very significant because it contradicted the current tendency toward economy of scale models. The next part of the book covers action learning in its social, cultural, and historic contexts. In particular, the author traces the split between scribe and artisan that has developed since the Industrial Revolution, and proposes action learning as an avenue to bring these the respective talents of the two groups together. The final part of the book is concerned with the logistics of action learning.

Zuber-Skerritt, O. (1992). *Action research in higher education*. London, UK: Kogan Page.

This collection of case studies in higher education (HE) describes the processes and procedures used by a collaborative inquiry group of HE teachers into their own particular practice with the use of action research methodology. Directed not only at staff developers and teachers in higher education, the book is useful for anyone interested in improving learning and teaching. The first chapter describes the features of action research. Other chapters included examples of improved practice at both the undergraduate and graduate levels, a methodology for eliciting personal theories of various aspects of higher education such as, research, teaching, and professional development, and subsequently evidence of the merits of action research for effective professional development. The final chapter presents the authors own action research.

Zuber-Skerritt, O. (1992). *Professional development in higher education*. London, UK: Kogan Page.

This is the companion volume to *Action Research in Higher Education*. In this book the author addresses the theoretical framework for action research in HE. The book explains how students and teachers in HE develop knowledge, and why experiential learning and collaborative inquiry are effective means of professional development. Aimed primarily at educational researchers, staff developers, educational consultants, academics, students, and administrators, anyone in government and industry who is interested in the practice of learning and teaching will also find this book valuable. The model presented for professional development for teachers in HE is called *CRASP*, an acronym for *Critical* attitude, *Research* into teaching, *Accountability*, and *Self-Evaluation*, leading to *Professionalism*.The four parts of the book cover praxis, and theory, in HE, the integration of theory and practice, and finally professional development in HE. This volume is extensive in its treatment of the theories that underlie action research, which makes possible the generation of theory through action.

Stringer, E. T. (1999). *Action research* (2nd ed.). Thousand Oaks, CA: Sage.

In the second edition of this practitioner-oriented book, Stringer extends his audience to include not only the community-based practitioners addressed in the first edition but also the ever growing number of scholars and students engaging in research in the university setting. The language of this volume is very accessible and one does not need to be familiar with typical research to grasp

the research tools here provided. Procedures are set out in detailed step-by-step fashion and, new to this second edition, each chapter ends with a boxed summary that may be used as check-lists. Throughout the book, the author has provided personal anecdotes to support the techniques described. Chapter topics cover all aspects of action research from its genesis and methodology, based on the simple routine — look, think, act— that guides the research process, to the details of setting up a study, gathering information, analyzing situations, formulating practical solutions and putting these into action, and organizing and writing formal reports. The final chapter revisits the research processes presented in the book and reflects on issues such as legitimacy in community-based action research and giving voice to the participants in research.

Internet Resources

http://carbon.cudenver.edu/~mryder/itc/act_res.html

This is an excellent up-to-date site with links to definitions, journals, and numerous references on action research. More than 100 other sites are also accessible through this site, which includes sources from Canada, the UK, Australia, New Zealand, and others apart from the USA.

http://www.scu.edu.au/schools/gcm/ar/ari/arihome.html

A refereed on-line journal of action research. This new site out of Southern Cross University in Australia already has the first papers posted and promises to be another source for recent articles on action research.

http://www.triangle.co.uk/ear/index.htm

Educational Action Research: A refereed international journal concerned with exploring the unity between educational research and practice. Site contains many full text articles.

http://www.ed.gov/databases/ERIC_Digests/ed355205.html

One of several ERIC Digest sites of interest to action researchers.

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PARTNERSHIPS IN LEARNING

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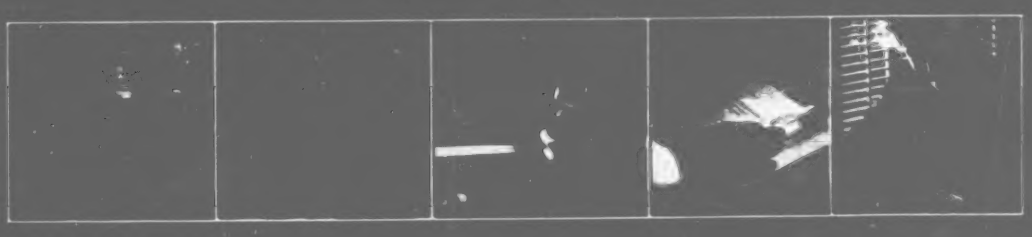

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